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ORIGINAL LECTURES.

ON THE TREATMENT OF NEURALGIA.

A Clinical Lecture

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(*Concluded from p.* 434.)

HAVING finished symptom-medication, and considered successively anodyne, revulsive, and empirical modes of treatment, we come to our second part, or pathogenetic medication.

You remember that we referred to three principal causes the etiology, or rather the pathogeny, of neuralgia; this disease being the result of modifications affecting the integrity of the nervous system, central or peripheral, or of the blood, or finally of the circulation. Here, then, are three classes of causes which we must pass in review.

From the stand-point of the nervous system, leaving one side alterations, more or less profound, and compressions of the nerves, I desire to call your attention to two points: first, the predisposition to neuralgias in the neuropathic and hysterical; second, to inflammation of the nerve-tubes or neuritis.

Neuralgia is one of the manifestations of the nervous temperament, and it may be affirmed that every nervous person suffers more or less from it. In these cases we witness the triumph of the bromides and of hydrotherapy. Bromide of potassium (alone or associated with other bromides), cold douches, local or general, and suitable outdoor exercise are the most certain methods of cure of neuralgias due to neuropathy; electricity, and especially static electricity, is a useful adjunct.

Neuritis is one of the causes of obstinate neuralgias; it entails atrophy of the member, and trophic cutaneous disturbances. The most effective remedy for neuritis is revulsion, which has a favorable influence on both pain and inflammation. Here all the revulsive methods before alluded to are applicable, and especially active cauterizations. To counteract the trophic troubles, you should have recourse to galvanism.

Neuralgias due to circulatory modifications are of two kinds, congestive and anæmic. Congestive neuralgias are especially frequent in the arthritic, and are best treated by ergot and aconitia. It is especially in facial neuralgias of plethoric persons, with marked congestion of the face, that aconitia is effective, and this by a sort of double influence on the circulation and on sensory innervation. Marino[1] has recently proposed ergotine for these congestive neuralgias, basing his recommendation on the known effects of this drug in constricting the minute vessels and anæmiating the tissues. I have never used this drug in neuralgia, having almost always found in aconitia a heroic and certain remedy. In neuralgias from cerebral anæmia, morphia is *par excellence* the medicament. It removes pain and provokes a salutary congestion of the sensory nerve-centres, which directly antagonizes the cause of the pain. Gymnastic exercises and hydrotherapy are most excellent adjuvants in these cases.

As for the alterations of the blood, which are the point of departure of dyscrasic neuralgias, they are very numerous, and chlorosis deserves the first mention. It may be affirmed that every chlorotic girl is neuralgic, and here we have an illustration of that grand principle of Hippocrates, *sanguis moderator nervorum*. Therefore, every therapeutic means which shall augment the richness of the blood, and the proportion of its hæmoglobin, is appliable to these cases; ferruginous or arsenical medication, baths of compressed air, inhalations of oxygen, country air and exercise, hydrotherapy, gymnastics, nourishing food, all these remedial measures are indicated. I cannot too strongly urge the use of arsenic in these cases of chlorosis; in my experience, the arsenical treatment has been quite as successful as the ferruginous, if not even more so; for arsenic acts, not only as a reconstituent, but it is a direct modifier of nerve substance. Those who have had the most practical acquaintance with the use of arsenic in neuralgia are the most emphatic in its praise.

This medicament may be given in the form of Fowler's solution; dose, three to ten drops after meals. [Anstie prefers this form of administration; he finds arsenic especially useful in neuroses of the par-vagum.] It is also given in granules and in pill form. [The combination with quinine, ext. aconite, and strychnine of Dr. Gross, known as Gross' neuralgic pill, is a favorite one in the United States.][1]

Certain neuralgias are of malarial origin; here we witness the triumph of sulphate of quinine. Marrotte has given us a good description of these *febrile* neuralgias, due to marsh poison. Where there is any reason to suspect any pathogenetic influence of this kind, you should be particular to ascertain whether the neuralgic attack comes on at a fixed hour, in which event you can easily and speedily control the affection by a full dose of quinine. You can increase the effect of the quinine by combining it with aconite, giving every three hours a capsule or wafer containing one-quarter of a milligramme of crystallized nitrate of aconitia, and twenty-five centigrammes of quinine; four of these may be given each day.

The diatheses, and in particular, syphilis, arthritism, dartre, have often a marked etiological relation to neuralgia. As for the first, you must not confound the so-called "osteoscopic pains" with the neuralgic pains, which really often exist under the influence of syphilis. These cases demand the ordinary anti-syphilitic treatment.

As for neuralgias of arthritic origin, they are among the most frequent, and sciatica and gout are often one and the same thing. The means which succeed the best in the treatment of gouty and rheumatic neuralgias are baths, and in particular, sulphur baths and vapor baths; the latter are often medicated to advantage with turpentine or pine shavings. In rheumatic neuralgias, the thermal waters are often successful; those of Plombières, Bourbonne, and especially Aix-les-Bains. In these neuralgias we may employ cyanide of zinc, proposed by Luton, and especially salicylate of sodium.

[1] Marino, Ergotina per use Epidermico, nelle cure delle Neuralgia, Palermo, 1877.

[1] *Vide* Cohen on "Arsenical Treatment of Neuralgia" in *Journ. Med. de Bruxelles*, 1864. Barilla, in do., for 1863. Vanlair, *The Neuralgiæ, their Forms and Treatment, etc.*, 1882.

The dartrous neuralgias are readily amenable to the arsenical treatment.[1]

Such is a somewhat curt summary of the principal indications of the pathogenetic treatment of neuralgia. I must now briefly consider the therapeutics of certain forms of neuralgia, and for convenience of arrangement will begin with the foot and end with the head.

Plantar neuralgia is one of the most painful of neuralgias, and incapacitates the sufferer from walking or standing. It is especially gouty and rheumatic patients that are affected in this way. This neuralgia is often rebellious, lasting months and even years. You have seen a good example in our wards; I allude to a certain female, who, in consequence of rheumatism following an accouchement, has been for six months confined to her bed from plantar neuralgia. What has seemed to succeed best in her case has been the application of strong tincture of iodine, and hot sulphur foot-baths.

I shall not dwell long on sciatic neuralgia, which has been often taken as the type of neuralgia. Here the revulsive medication, carried out in all its rigor, succeeds best. Sciatica is often a neuritis, and it may almost with certainty be affirmed, when this neuralgia is obstinate, and is not due to compression of blood-vessels, viscera, etc., that it proceeds from inflammation of the nerve. I believe that this frequency of neuritis of the sciatic nerve results from proximity of that nerve to the surface, and from the modifications which it is likely to experience from external influences, and especially from atmospheric changes; there is certainly no form of rheumatic neuralgia so common.

Apropos of these stubborn sciatic neuralgias, I must remark that they are often dependent on affections of the spine, especially when they are bilateral. Essential double sciaticas are very rare, and when they occur, are generally occasioned by tabes dorsalis, or, as Worms has shown, by diabetes.[2]

Neuralgia of the uterus, bladder, testicle, and spermatic cord have frequently been observed. I know that it has been disputed whether these *visceralgias* ought to be considered true neuralgias, but it is of little consequence what we call them, they are painful affections, and prompt relief is demanded. In uterine neuralgia, cauterizations are of striking utility. You will in fact observe a certain number of females, who, apart from all organic disease of the uterus, suffer pains in that organ presenting all the distinctive characters of neuralgia. In these cases revulsive applications to the os or cervix with the Paquelin cautery, or the acid nitrate of mercury, give excellent results. Do not, however, forget that in this neuralgia of the organs contained in the pelvis, one of the best methods of administering anodynes is the suppository. [Here the morphia suppository of the U. S. P., with one-third grain extract of belladonna, will do good service.]

Ileo-lumbar neuralgia is often the cause of cruel suffering, besides being rebellious to the most energetic treatment. In fact, this affection is frequently due to profound troubles of the kidney, and particularly to renal lithiasis. You are aware that in these renal cases of persistent neuralgia it has been proposed to remove, or to open, the kidney; in a word, to perform nephrectomy or nephrotomy, as Professors Leon Le Fort and Le Dentu have done. I pass by gastralgia, hepatalgia, and the greater part of abdominal neuralgias, only referring you to what I have already said in regard to them while treating of diseases of the stomach, liver, and intestines, and I come now to intercostal neuralgia. This is a very common neuralgia, and all delicate, nervous women suffer from it more or less. Peter, in his remarkable lessons on *pains in the side*, insists that intercostal neuralgia is always limited to the left side; I do not quite agree with him in this. It is true that the far greater part of painful intercostal affections are on the left side. You will nevertheless now and then see hysterical patients whose painful sensations and whose anæsthesia are exclusively right-sided. On whichever side it may occur, this neuralgia is obstinate, and resists not only morphine injections, but also revulsive treatment. Hydrotherapy, applied in the form of douches to the painful region, seems to me one of the best means of combating this rebellious intercostal neuralgia.

I shall finish this lecture by a brief consideration of the neuralgias of the fifth nerve.

Odontalgia, I need not tell you, is one of the most common of painful affections, and every one has at some time experienced the atrocious pain of toothache. This neuralgia is often determined by alveo-periostitis, or by a carious tooth, which affects the terminal portion of the dental nerve. There exists a ready means of relief for this pain in arsenious acid, which destroys the dental pulp, a method which Tomes, Magitot, and Combe have advised. A paste is recommended (to be applied on cotton to the cavity of the tooth), consisting of two parts of white arsenic, two of morphia, one of gum tragacanth, and one of glycerine. Among the numerous measures which have been employed against odontalgia, Bouchaud has counselled electricity. His method is to place the positive pole over the diseased nerve, and the negative pole a short distance from it, and to pass a mild continued current.

A word now about facial neuralgia, properly so called. These neuralgias affect sometimes the supra-orbital nerve, sometimes the infra-orbital branches; these last are the most obstinate. As I have already told you, they often yield readily to treatment by aconitina, or to sulphate of quinine when of an intermittent character. They sometimes defy all treatment, and have been known to involve the facial nerve, as well as the fifth. Without discussing the question of recurrent neuralgia—a subject which has of late been treated in a brilliant manner by Cartaz—you all know that neuralgia is often accompanied by painful contractions, and that to this syndrome the name has been applied of epileptiform neuralgia, or tic douloureux of the face. It is the most atrociously painful affection that has ever afflicted humanity, and instances have been known where it has driven its unhappy victim to suicide.

It is in these cases that surgery steps in, with its nerve-stretching and neurectomy; here too the advantages of galvanism have been lauded. If you employ electricity, you must never exceed a certain intensity, (two or three milliampères, for instance); you must also, as Apostoli enjoins, make use of rheostats, and interpose a certain resistance to the current, to avoid the *photopsias* which are produced with each modification of the current. It is understood that the positive pole must be placed over the painful point, and as for the duration of the *sèance*, it ought to be continued till the pain disappears.

I must, before finishing, say something about migraine, which (therapeutically at least) belongs to the neuralgias. You are not ignorant of the discussions which have arisen over the pathogeny of migraine, some considering it simply a neuralgia of the tri-facial, others as a special neurosis of the same nerve, or even as a neuralgia of the brain itself, a cerebralgia, as Romberg

[1] Marrotte. "Febri-neuralgiés de l'esthime du Gosier," *Bull. Gen. de Therap.*, 1874. Abbot, "Sciatic and Facial Neuralgia Treated by Salicylic Acid and Salicylate of Sodium," *Boston Med. and Surg. Journ.*, July, 1879. E. Labbé, "Neuralgiés traités par le Salicylate de Soude," *Soc. de Therap.*, Paris, Feb. 9, 1881. Lagrelette, "De la Sciatique," *Th. de Paris*, 1869. This writer advocates strongly vapor baths and hydrotherapy in sciatica.

[2] Worms, Symmetrical Sciaticas in Diabetes, Paris, 1880.

maintains. There are still others who assert, as does Du Bois-Reymond, that the principal seat of migraine is the cervical portion of the great sympathetic. This is the view generally held in France, especially by Gubler and Jaccoud. It is, in fact, probable that migraine is not a simple neuralgia, but a complex neurosis, affecting alike the cerebrum, the trigeminal nerve, and the cervical portion of the sympathetic.[1]

Whatever its pathological nature, migraine is a very distressing affection, and you will often be consulted in reference to it. You ought always, if possible, to ascertain the first cause, and as far as this is concerned, this is what you will discover: in nine cases out of ten migraine is a diathetic affection, and for my part I have frequently observed it in hemorrhoidal, arthritic, and asthmatic subjects. Your treatment then should be directed to the arthritic diathesis, of which the migraine is an expression. At other times you will find the migraine due to causes of a different character, occasional causes to which you should address your therapeutic endeavors. These causes may be ranged in three groups; first, excess of work, and especially brain work during the night-time, and with the aid of too strong a light. Piorry referred all migraines to fatigue of the eyes; to him, migraine was only a manifestation of *irisalgia*. Second, anæmia; the megrim of chlorotics is an example, coming on whenever by any cause the organism is enfeebled. Third, congestive head-troubles, instances of which we see in the hemicranias of the gouty or arthritic.

The first class of patients are benefited by rest from mental toil, and by bromide of potassium; the second may require hydrotherapy and morphia; the third will need alkalies, intestinal derivatives, and especially aconitia.

I have finished this long exposition of the treatment of neuralgia, exposition far from complete notwithstanding its length. I believe, however, that I have furnished you the general principles which ought to guide you in your practice.

In the combat with pain your therapeutic resources will be taxed to the uttermost, and you can only fulfil your professional duty by the intelligent endeavor *always to relieve, if you cannot cure.*

ORIGINAL ARTICLES.

THE QUESTION OF TREPHINING IN INJURIES OF THE HEAD.

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The operation of trephining the skull having been performed in my service at the Roosevelt Hospital in seven cases during the past year, I have thought that a brief account of these cases might be profitable by eliciting from the members of our Society their experience in the operation, and more especially their views in regard to the indications for its performance. For ages past no surgical procedure has been the subject of keener controversy; and the diversity of opinion which still prevails concerning it suffices to prove that the question of its value is yet unsettled, and that it is one of inherent difficulty and obscurity. Further discussion, therefore, appears to be desirable, particularly when we consider the fact that a few American surgeons have lately endeavored to extend the sphere of the operation, by reviving the obsolete practice of trephining in cases of simple fracture attended with displacement or depression, even in the absence of head-symptoms, and merely as a preventive measure.

Before proceeding to relate briefly the cases above referred to, it may be proper to state that I shall employ the term trephining in its wider sense, which includes, under this designation, the several methods by which fragments of bone are elevated or removed, whether by means of a trephine, Hey's saw, chisel, elevator, or gouge-forceps.

Out of the seven cases the operation was performed once for simple fracture with depression, four times for compound fracture with depression, and twice for epileptic and paralytic affections following an injury,

Case I.—On August 23, 1882, a boy, aged 13, was brought to the hospital in a semi-comatose state, caused by a fall from a horse just before his admission. On examination, a scalp wound was found over the left, and a hæmatoma over the right parietal bone; but no fracture was discovered. The left side of the body was partially paralyzed. Treatment: iodoform dressing to scalp wound; ice-cap to head.

Aug. 25.—Patient still comatose. Dr. Halsted, the assistant surgeon, suspecting fracture, made a crucial incision over the right parietal bone, and discovered an extensive depressed fracture of the right temporal and of both parietal bones, running upward beyond the vertex. A large piece of the temporal and several fragments of the parietal bone were elevated or removed, and on following up the line of fracture to the vertex a rent was found in the dura, through which a considerable amount of brain-substance had escaped. During the operation the superior longitudinal sinus was wounded. Bleeding was arrested by pressure, and the external wound was partially closed by suture. Consciousness did not return, and death occurred two hours after the operation.

Evidently in this case the operation was useless; and undoubtedly it would not have been undertaken if the extent of the injury had been known beforehand. The case may serve, however, to enable us to discuss the general question as to the expediency of trephining in simple depressed or comminuted fracture, accompanied or not by symptoms of compression or other cerebral injury. It is hardly necessary to remark that a fracture of the skull derives its chief importance from the concomitant or subsequent injury which is sustained by the intra-cranial contents; and just as no prudent surgeon would dream of converting a simple fracture of the leg into a compound one for the sake of obtaining an accurate adjustment of the fragments, so the plea for preventive trephining in cases of simple depressed or comminuted fracture of the cranium, without head-symptoms, is based

[1] Tissot, *Nerves and their Diseases*, t. xi., Paris, 1873. Bouillaud, *Nosographie Medicale*. Pelletan, *Coup. d. œil sur la Migraine et sur ses divers traitements*. Du Bois-Reymond, *Archiv fur Anat.*, 4th livraison, 1860, p. 461. Gubler, *Dict. des Sc. Med.*, Art "Migraine." Piorry, *Memoire sur la Migraine, Traite Med. Pratique*, t. viii. p. 73.

upon the supposition that by operating, the danger of subsequent cerebral mischief will be averted. I cannot admit the force of this argument, which seems to me to undervalue, on the one hand, the resources of nature, and, on the other hand, the risks inseparable from surgical interference. Every surgeon present has doubtless met with examples of simple depressed fracture, in which no alarming head-symptoms were present, and in which permanent recovery took place without any active treatment. Surgical literature abounds in such cases. Textor cites twelve instances of depressed fracture, verified by post-mortem examination, in seven of which the depression was complete, involving both tables, and in all of which recovery had taken place without any impairment of the cerebral functions. Similar observations have been recorded by Erichsen, Nunn, Bruns, and by many other trustworthy writers.

In cases of simple comminuted fracture, without marked depression, but with considerable displacement of the fragments, early trephining is sometimes advocated on the ground that unless the loose pieces of bone are removed by operation, they will probably become necrosed, and thereby set up fatal intra-cranial inflammation. But neither of these statements is confirmed by experience. We can rarely feel certain that the comminuted portions of bone, even though freely movable, are completely detached from their vital connections; for they may still be adherent to the pericranium. But, admitting their isolation to be complete, it is conceivable that their vitality might yet be preserved by newly formed attachments to the surrounding parts. In support of this view, I may cite a case lately published by Professor MacEwen, of Glasgow, who, having applied the trephine in a compound depressed fracture of the skull, took a piece of the inner table which had been completely detached, and laid it in the trephine-aperture. The transplanted bone caused no irritation, and the wound healed without any signs of inflammation. Nevertheless, it cannot be denied that necrosis may occur under the circumstances above mentioned, although it is comparatively rare when the fracture is simple. It must be also granted that when occurring, the suppurative action excited by the presence of the dead bone may extend to the membranes of the brain, causing fatal complications. But there are so many recorded examples of necrosis following gunshot injuries of the head, in which very large pieces of necrosed bone have been removed without the occurrence of cerebral symptoms, that preventive trephining can hardly be defended unless it can be shown to be an operation free from serious risk.

The performance of the operation in cases of simple depressed fracture, without head-symptoms, with the object of removing sharp fragments of the inner table which it is assumed may have irritated or penetrated the membranes of the brain, or perhaps the brain itself, seems to me also quite unnecessary. It is true that in severe cases of simple fracture the internal table is often very extensively injured; and Bergmann has aptly remarked that a mere inspection of museum specimens might lead one to infer that simple fractures were graver injuries than those which are compound. But clinical experience proves that these extensive osseous lesions are often recovered from without surgical interference.

On the whole, then, it would appear that the apprehensions felt by those who advocate preventive trephining in the circumstances mentioned are scarcely justified by observation. And if this fact is admitted, the propriety of performing the operation of trephining must be considered as, at least, very doubtful. If our means of diagnosis were more exact, and if we were able to predict what cases would turn out badly if left to nature, active interference would often be an obvious duty; but in the absence of such knowledge, it seems unjustifiable to subject the patient to an operation which must convert a simple into a compound fracture, with its attendant danger of suppuration in close proximity to vital parts. Although a firm believer in the excellence of antiseptic surgery, I regard the unbroken skin as a surer protection to the deeper parts than the best surgical dressing that has yet been invented; and when we remember that, occasionally, even in careful hands, accidents occur in performing the operation, such as wounding the dura mater, or perhaps the brain, or one of the larger sinuses, we have still further reason to follow the conservative method of treatment which is sanctioned by the teaching and experience of the great majority of living surgeons.

The course which should be pursued in cases of simple fracture of the cranial vault, accompanied by head-symptoms, is by no means easy to decide. The unknown quantity, vaguely expressed by the term "head-symptoms," often leaves us quite in the dark regarding the seat, nature, and extent of the traumatic lesions, so that we cannot foretell whether the operation of trephining will prove beneficial, useless, or injurious. In endeavoring, however, to arrive at a definite conclusion on this point, there are certain well-known pathological and clinical facts which may sometimes guide us. Compression of the brain, resulting alone from a fragment of depressed bone, is rarely of long duration. Often, as has been remarked, considerable depression exists without any interference with the cerebral functions; and even when the depressed bone causes symptoms of compression, these frequently disappear gradually as the cerebro-spinal fluid becomes displaced or absorbed, and the circulation in the brain is restored to its normal condition. Hence, even when we trephine successfully in cases of depression, we can not always be sure that the favorable result is due to our intervention. This point is happily stated by Dieffenbach, who records his experience in the following words: "A boy fell from the first story down upon a stone pavement, and received a fracture of the right parietal bone, of which a piece three inches in circumference was depressed several lines in depth. He lay comatose. I trephined him; he recovered, and I believed that I had saved his life by the operation. A year later he fell from the same place, and struck again upon the stone pavement, this time breaking

the left parietal bone, just as he had before broken the right one. He recovered without trephining; again I believed that I had saved his life; and I began to think that he had shown much endurance at the time when he survived the operation."

It has been clearly shown that in severe cases of simple depressed fracture, accompanied with marked and prolonged signs of compression of the brain, other lesions usually coexist, such as contusion or laceration of the brain, or hemorrhagic extravasation, which may take place between the dura and the skull, in the arachnoid cavity, in the substance of the brain, or on its surface from the vessels of the pia mater. If we except those rare instances in which the compression is due solely to an extravasation between the dura and the cranium, we shall have no reason to expect that benefit would result from the application of the trephine. So far as the brain-substance is concerned, the damage it has sustained is beyond the reach of mechanical aid; its integrity, if restored, will be slowly regained, as in cases of ordinary apoplexy, by absorption of the extravasated blood. And the same process goes on, in favorable cases, when blood is effused upon the surface of the brain. We have probably all seen examples of coma lasting for days or for weeks after head injuries, but which yet ended in recovery, due, as we may fairly presume, to the gradual disappearance, by absorption, of the extravasated blood. When we consider how large a quantity of blood is often poured out within the cranium in cases of fracture, we cannot avoid the inference that the compression which it exerts is far greater than ever occurs from any depression of bone that we should think of treating by operation. In such cases trephining would be useless, either in consequence of the depth of the extravasation, or because, being widely diffused over the surface of the brain, the effused blood would not escape through the artificial opening made in the skull. Furthermore, the operation might, in some cases, prove injurious by provoking meningitis. In other words, the very facts which have been urged as affording an indication for the employment of the trephine in cases of simple fracture may, in my judgment, be used as an argument against the propriety of the operation. I refer to the gravity of the injury and the severity of the symptoms. Where the fracture is of great extent and accompanied with severe contusion or laceration of the brain, or with copious intra-cranial hemorrhage, it is extremely doubtful whether the trephine can ever be employed with advantage, while the operation must, by increasing the mechanical injury, and by favoring the occurrence of suppuration, add not a little to the already existing danger which threatens the patient's life. Perhaps I do not fully appreciate the comparative safety which attends the performance of the operation according to modern antiseptic methods; but I believe that in this class of cases future experience will prove active interference to be of doubtful utility.

There are two conditions, however, either one of which, when present, renders imperative an immediate resort to the trephine. One of these is the case in which the fracture is of limited extent, and in which there is reason to think, from its situation, or from the occurrence of monoplegia, monospasm, or hemiplegia, that a splinter from the inner table may have penetrated the motor tract of the cerebral cortex. But, as we have seen, the fractures which are attended with such displacement of fragments of the inner table are usually of small extent, and are almost invariably compound. The other case is the one in which compression of the brain is caused by an accumulation of blood between the dura mater and the cranium. Such an accumulation may result from a wound of the larger venous sinuses, but in a large majority of instances it depends on a wound or a laceration of the middle meningeal artery. The accident is most frequently accompanied by a compound fracture; but it may be met with in cases of simple fracture, and occasionally when no fracture is present. When there exists a compound fracture, the blood usually escapes through the external wound, thus rendering the diagnosis easy; but when the fracture is simple, or when the artery alone is injured, the extravasated blood separates the dura mater from the cranium, and may be poured out in sufficient quantity to cause fatal compression of the brain. The amount of blood thus extravasated may be as much as half a pint. When the brain has not sustained severe injury, and the symptoms of concussion are but slight, the signs of the arterial lesion may be quite characteristic. After a blow has been received, usually in the temporo-parietal region, the patient, although perhaps slightly stunned, soon regains consciousness, and exhibits no marked signs of cerebral injury. But, after the lapse of a few minutes, or possibly several hours, symptoms of compression appear, and soon become very marked, the patient often dying within twenty-four hours from the time of the accident. Hemiplegia sometimes occurs before insensibility is complete; and its detection is important, for the reason that a blow upon one side of the head has been known to cause a rupture of the artery on the opposite side. The accident affords a clear and positive indication for the application of the trephine, yet there are but few recorded cases of the operation. Adding one recent case to the list compiled by Bergmann, there are one hundred well-authenticated examples of hemorrhage from the middle meningeal artery. Of these, seventeen ended in recovery; and in twelve out of this number the blood escaped through an external wound. Of the remaining five, one recovered without operation, the diagnosis being confirmed by autopsy when the patient died three years later of pneumonia. The other four recovered after operation, the blood being evacuated through the trephine opening. In one of these cases, that of Hueter, the bleeding artery was secured by a ligature.

The four cases of compound depressed fracture may be related in a few words.

CASE II.—A girl, aged 14, entered the hospital February 14, 1882, having been kicked on the head by a horse shortly before admission. Compound depressed fracture of frontal bone just above superciliary ridge. Depressed portion measured

one-half inch by two inches. Patient unconscious. Trephine applied on outer side of depression by Dr. Parmley, house surgeon, and depressed bone elevated, and several loose fragments removed. Catgut drainage, salicylated cotton dressing; wound closed by sutures. Patient became conscious after operation, and had no head-symptom afterwards. Temperature never rose above 100° F. Discharged cured February 29th, fifteen days after injury.

CASE III.—Male, aged 23. Entered hospital June 22, 1882. Fifteen minutes previously was kicked by a horse, the injury sustained being a compound fracture of left side of frontal bone, just above superciliary ridge. Was able to walk into hospital, and showed no signs of concussion. Right pupil dilated. A portion of bone, one inch by three-fourths of an inch, comminuted and depressed. Ether. By means of trephine, gouge-forceps, and elevator, Dr. Weed, house surgeon, removed depressed fragments, and smoothed off sharp edges of bone, leaving aperture five-eighths by one inch and one-quarter. Dura uninjured. Catgut drainage. Silk sutures. Iodoform dressing. No bad symptoms. Wound healed, and patient discharged cured July 6th, fourteen days after accident.

CASE IV.—A man fell eight stories, and was brought to the hospital, comatose, October 3, 1882. Had compound fracture of right femur, compound fracture of the right parietal bone, and fracture of spine in upper dorsal region, the latter injury not being discovered until after death. Pieces of bone impinging on dura mater removed by Dr. Weed, house surgeon, leaving oval opening one inch and three-fourths in length. Patient remained comatose, and died thirty-six hours after admission.

CASE V.—Man, aged 50, admitted October 22, 1882. While under influence of liquor, fell upon a stove, striking the back of his head, and sustaining a compound depressed fracture in occipital region on the left side, just above superior curved line. Depressed bone measured three-fourths by one and one-half inch. Much comminution of both tables, especially the inner. No head-symptom; no wound of dura. Operation by my assistant, Dr. King. Patient etherized. Depressed fragments removed, and edge of aperture made smooth with gouge-forceps. Catgut drainage. Wound washed out, as in previous cases, with five per cent. solution of carbolic acid, and closed with silk sutures. Iodoform dressing. Patient progressed favorably, and was discharged cured November 5, 1882, fourteen days after admission.

Of these four cases, it may be observed that the third one was evidently hopeless when admitted, and that any operation under the circumstances was inexpedient. The remaining three are familar examples of recovery after trephining in compound fractures of limited extent, accompanied with depression and comminution of the bone, but not attended with any signs of serious injury to the brain. I believe that in such cases trephining is plainly indicated, and that many lives which would otherwise be lost are saved by the operation, which, by elevating depressed fragments, by removing fragments that are loose or sharp, and by permitting thorough antiseptic irrigation of the wound, reduces to a minimum the risk of intra-cranial inflammation, so greatly to be dreaded in this class of cases. To insure success, however, the operation should be performed soon after the injury, and with strict antiseptic precautions. I recall an instance in which many years ago I unfortunately delayed the operation until the third day, in consequence of the entire absence of head-symptoms. When these occurred I trephined, but lost the patient, who, I believe, might have been saved by earlier interference. If trephining has not been performed soon after the accident, and the wound seems to be doing well, I should consider it objectionable to disturb it at a later period, unless the operation was indicated by the occurrence of decided symptoms pointing to intra-cranial mischief, as I have seen cases of recovery from compound depressed fractures in which the bone was not elevated, but I do not remember to have met with such an instance except in children, who, as is well known, bear head injuries much better than is the case with adults.

While believing that trephining is to be recommended in all cases of compound fracture in which the depression is marked, but of no great superficial extent, and in all cases of punctured fracture, where there is reason to suspect that the internal table is extensively splintered or depressed, I am strongly opposed to active interference when the fracture is of great extent, and when the depression is not limited or abrupt. It is true that these cases are usually fatal, but I am sure that nothing can be gained by the extensive operative procedure that would be involved in any attempt to remedy the displacement. Aside from those cases in which the brain has suffered irreparable damage, I think that in future many successes will be obtained by careful antiseptic treatment of the wound, such as is recommended by Lister in the management of compound fracture of the bones of the extremities. The most scrupulous cleansing of the wound, the arrest of hemorrhage, the removal of foreign bodies, loose fragments of bone, and of detached portions of brain matter, if present, followed by proper drainage and dressings, are, in my judgment, the only means, which, with our present knowledge, promise any benefit in this nearly desperate class of injuries.

In the two cases that complete my list, trephining was performed at a period remote from the date of the accident.

CASE VI.—Wm. G., aged 26, entered the hospital June 26, 1882. Nine years ago was struck on the head by a piece of slate weighing one pound and a quarter; became immediately unconscious, and remained in bed several weeks; when consciousness returned, left hemiplegia was observed. This remained nearly complete for several months, after which it gradually diminished and nearly disappeared. A few weeks after injury, began to suffer from epilepsy, and has ever since been liable to frequent attacks. Left hand somewhat weak; un-

able to contract index finger. Patient lively and talkative, but mind evidently impaired. On the right side of head, near parietal eminence, is a depression of bone, about one and one-fourth inch in diameter; its right edge is one and one-half inch from median line, and its centre just in front of the Rolandic line; depth of depression at centre greater than elsewhere, and estimated to be one-fourth of an inch; scalp over depression marked by a crucial scar, the point of crossing corresponding with its deepest part.

Operation, June 27th: Bone exposed by a crucial incision, and trephine applied just behind margin of depression; piece removed was five millimetres in thickness. By means of gouge-forceps, the depressed bone, as well as that adjacent to it was removed, leaving a nearly circular aperture, measuring four and one-half by five centimetres. The depressed bone was quite vascular, and was considerably thickened, being twelve millimetres in thickness at its central part. No adhesions between bone and dura; no morbid condition discovered beside those already mentioned. Wound closed by silk sutures, without drainage; iodoform dressing. Before and after operation, patient took daily ninety grains of potassium bromide. Recovery took place without a bad symptom, the temperature never exceeding 100° F. The dressing was not changed until the end of a week, when complete union was found to have taken place externally; the scalp was considerably elevated, however, by a fluid accumulation beneath it, which was probably either blood or serum; it disappeared by absorption in the course of the following week, at the end of which time the patient left the hospital, in about the same condition, as regards want of mental and muscular power, as when he was admitted.

A letter, dated March 25, 1883, has just been received from the patient's father, stating that the operation has been followed by some amelioration of his condition, the epileptic seizures being somewhat less violent, the headache less intense, and the weakness of the right hand less marked.

This case was sent to me by my friend, Prof. Seguin, who advised the operation as a last resort, medicine having failed to afford the desired relief. What permanent benefit will result from the removal of the depressed and thickened bone, it remains to be seen; yet I anticipate little, if any. It seems far more rational to ascribe the patient's symptoms to textural alterations in the cerebral convolutions resulting from the primary injury, than to assume that they were due to the slight diminution in the size of the cranial cavity, caused by the depressed and hypertrophied bone.

Twenty years ago I assisted Prof. Willard Parker in operating on an epileptic girl, who had been subject to the paroxysms since her early childhood, and who had a well-marked hypertrophy of the right parietal bone, situated near the vertex. The bone was an inch in thickness at its middle part, and projected both externally and internally, the internal projection being estimated to be three-eighths of an inch below the normal plane of the internal table of the skull. The tumor was completely removed, leaving a circular aperture which was two inches in diameter. The dura mater was healthy, and not abnormally adherent. Recovery from the operation was speedy and satisfactory; but a month later the fits returned, and six months afterward became as frequent and violent as before. In this case there was no history of injury, and therefore there was greater reason to hope that an operation would prove beneficial.

Case VII.—Margaret F., æt. 39, married (?), was sent to me by Dr. R. W. Amidon, who saw her early in November, and has furnished the following notes of the case. "Bright's disease three or four years ago (swollen feet, backache), was sick nine months. Five weeks ago struck head (left parietal region) against sharp corner, was knocked down and dazed, but not stunned; no fit at that time; no signs of fracture or concussion; thinks there has always been a lump there since.

"Two weeks after injury had a 'fit,' lost consciousness and fell. Since then, at intervals of about a week, has had short epileptic attacks, preceded by queer feeling in tongue, sensation of pins and needles in right hand, then an invasion of right hand, and loss of consciousness very short, three or four seconds. Afterwards feels weak, and sleeps. Thinks that right hand has lost strength; has headache in right fronto-parietal region; denies syphilis. On examination, right side of face weak, tongue straight when protruded, grasp of left hand nearly as strong as right (25 : 30), a doubtful limp in right leg, tenderness over site of injury, which patient indicates as over middle third of ascending parietal convolution. Slight aortic direct murmur. Ophthalmoscopic examination shows optic disk not choked. Diagnosis: traumatic epilepsy. Treatment: potassium bromide. November 13th, sent to Dr. Sands for operation."

Dec. 18.—Has been under treatment with bromide of potassium in ten grain doses, *ter in die*, for some time. Has severe headaches, and at times a piercing pain just at the point of injury; has had no convulsive attack since admission, and has been going about the hospital ward; discharged, improved.

Jan. 13, 1883.—Readmitted. Has pain on left side of head, is aphasic at times, and shows some loss of power in both arms; has fits, and during the fits says she froths at the mouth, and bites her tongue.

16th.—Last night had a severe headache, and could not sleep on account of pain.

17th.—Slight facial paralysis of right side; nasolabial fold narrowed; the tongue, in protruding, deviates to the right side.

18th.—Both pupils dilated to one-fifteenth of an inch; the left pupil contracts moderately on on exposure to light; the right less so; neither responds perfectly.

20th.—Is very stupid, and sleeps most of the time. Ordered solution of potassium bromide, one drachm every four hours.

29th.—More aphasic; has an acne-eruption over face, probably due to potassium bromide.

Feb. 1.—Examination with ophthalmoscope shows

choked optic disk on both sides; dynamometer shows left hand 30, and right hand 26. No exact diagnosis was made either by Dr. Amidon or by myself as to the character of the lesion presumed to exist; but we agreed that an explorative operation would be proper, in the hope of discovering a detached splinter of bone from inner table, a chronic abscess, or some other morbid condition admitting of relief by mechanical means.

6th.—Ether: *Operation* by Dr. Sands. The scalp being shaved, an incision was made on the left side of the head, about two inches above the ear, in a direction parallel to the zygoma; the incision was about two and one-half inches long. The largest trephine was applied nearly opposite the Rolandic line, and a button of bone removed, about one-fourth of an inch thick. Nothing was found, excepting that the dura matter was apparently thickened. The incision was extended for about one inch in a direction downward and outward, and the trephine aperture enlarged by means of gouge-forceps. Pulsation of dura absent; no fluctuation could be felt. A large hypodermic needle was thrust through the dura, in three different places, to the depth of an inch, but nothing withdrawn. In making two of the punctures, however, the needle met with considerable resistance, and the idea of a tumor was suggested. When all bleeding had stopped, wound was closed with fine catgut sutures, except at upper part, which was left open; iodoform dressing.

9th.—Patient speaks very indistinctly, and not loud enough to be heard at any distance; was reported as being delirious last night; apparently more aphasic than before operation.

10th.—Less aphasic.

11th.—Patient delirious at times. P. M., patient very noisy, and disturbs the ward. Magendie's solution, ten minims.

12th.—Patient had to be tied in bed on account of delirium. 3.30 P. M., wound dressed under spray, and found to be perfectly clean; union had taken place throughout; redressed with carbolized oil, 1–12.

13th.—Slept tolerably well last night. This morning is very delirious. Magendie's solution, ten minims, administered hypodermically.

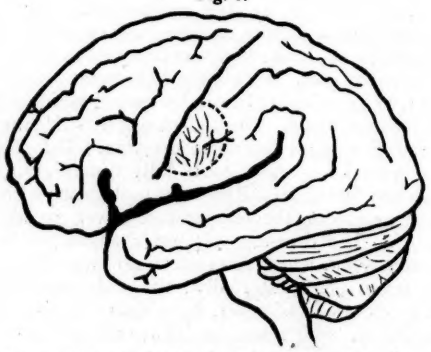
14th.—Patient this morning was cyanotic; respiration 7; pulse 120, and strong; pupils contracted and not responsive to light. Ordered atropine sulph., gr. $\frac{1}{125}$. After taking one dose, respiration 16; took two more doses before 12 M. After this time respiration 4; 2 P.M., respiration 5; pulse 140. At 11 P.M. died. Temperature after operation did not exceed 99° until the day before death, when it suddenly rose to 103°.

Report of *autopsy* by Dr. Delafield. Body fat.

"Head: A wound upon the left side of head, which has united, though not firmly, throughout. The wound runs from about two inches above the ear forward, parallel with the zygoma. Beneath this the bone has been removed. The wound in the bone is in the left parietal bone near its lower edge. The upper margin of the squamous portion of the temporal bone has been cut through. The opening through the bone is about one and one-half inch long, three-fourths of an inch broad; the edges are clean cut; the space thus left between the scalp and the dura is filled with some reddish, partially organized clot, and there is a very little pus at its edges, and in the upper fibres of the temporal muscle. The dura beneath is adherent to the pia.

"Brain: The portion of dura adherent and just under the wound, lies over the middle of the posterior central convolution, and extends a little posterior to it. The fissure of Rolando is not touched by it, but lies a few lines in front. There seems to be no meningitis. Just beneath adherent dura, in posterior central convolution, and convolution just behind it, is a gummy tumor about one inch in diameter.

Fig. 1.

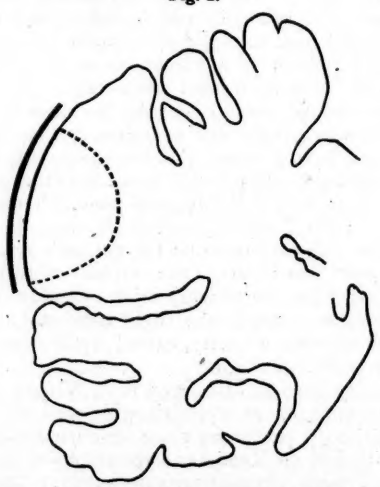


Lateral view of brain, showing the position of the tumor.

"Heart, liver, spleen, lungs, kidney, and stomach are normal.

"Fallopian tube of left side terminates in a cyst containing a fœtus."

Fig. 2.



Transverse vertical section of the left cerebral hemisphere, showing the relation of the tumor to the trephine operation.

On reviewing this interesting case in the light of the post-mortem revelations, which seem to indicate a syphilitic origin of the cerebral tumor, it is

certainly a subject of regret that the true nature of the disease escaped observation during life, as possibly it might have been controlled by specific treatment. But neither Dr. Amidon nor myself was able to obtain a syphilitic history, or to discover any existing specific lesion. Certainly the symptoms were very misleading. No convulsive seizure or other sign of cerebral trouble preceded the injury to the head, which was inflicted directly over the psycho-motor centres, and which was followed, after the lapse of a fortnight, by epileptiform attacks in which the convulsive movements were strictly limited to the upper extremity on the side of the body opposite to that where the blow was received. Assuming the morbid growth, however, to have been syphilitic, it must be a matter of conjecture whether the injury acted as an exciting cause, and determined its development, or whether the causative relation was the reverse, the injury having been due to a fall which occurred when the first epileptic fit was occasioned by the already existing gummy tumor. The case is instructive as demonstrating the value of cerebral localization in determining where the trephine should be applied. At the time of the operation the patient suffered from aphasia, impairment of vision, facial paralysis, and partial paralysis of the tongue, as well as from paresis of the right upper extremity. But as the affection of the upper limb was observed some time before the other nervous disturbances occurred, it was believed that these latter symptoms were due to secondary changes, perhaps to pressure or œdema, and that the primary cause would probably be found in the centre governing the movements of this part of the body. The post-mortem examination verified the accuracy of this conclusion, and the accompanying drawing furnished by the pathologist, Prof. Delafield, shows that the tumor occupied the centre referred to, and that it lay directly beneath the opening made by the trephine. Finally, although the autopsy disclosed no evidence of cerebral inflammation excited by the operation, the active delirium which set in toward the close of life may possibly have resulted from encephalitis; and it seems certain that death, although inevitable, was hastened by the undue effects of a dose of morphine administered with the object of relieving this distressing symptom.[1]

PRELIMINARY REPORT ON THE VENOMS OF SERPENTS.

By S. WEIR MITCHELL, M.D., and EDWARD T. REICHERT, M.D.,
of Philadelphia.

(*Read before the National Academy of Science, April 18, 1883.*)

The present report represents a part only of an elaborate study of the poisons of all our own genera of serpents, and it is hoped may include a number of foreign genera. Our researches have of late been rewarded by so remarkable a discovery in toxicology that it has been thought well to announce it here rather than to await their completion. We have therefore selected from our notes such material as seems to us of interest from its novelty.

Physical Characters.—The venoms which we have obtained in a fresh state from the rattlesnake, moccasin, and copper-head, do not differ in general appearances, and are all in the form of a slightly turbid, yellowish fluid (occasionally colorless), and varying more or less in the degree of viscidity. They have no odor, and the reaction is invariably acid.

All the venoms, whether in their dried or their natural state, are soluble in water at ordinary temperatures, save for a slight cloudiness which but slowly settles. In the dry cobra venom sent us from India, by Mr. Vincent Richards, of Calcutta, there is also a little indissoluble matter, which occurs in larger flakes, and may be due to the mode of drying the poison.

When dried they resemble ordinary egg-albumen, and when thus prepared in small quantities in a porcelain capsule, innumerable radiating lines of fracture occur which break the mass into long, needle-like pieces, closely resembling acicular crystals; indeed, the resemblance is so striking that the uninitiated are frequently deceived as to the true physical condition of the venom. When larger quantities of venom are dried, these needle-like pieces are apt to be broken up by numerous cross-fractures.

In drying, venom loses a large proportion of its weight. Unfortunately, we have not had at our disposal any fresh cobra venom, nor have we as yet made any estimate of the solid constituents of the venom of the copper-head, but in our examination of the venoms of the rattlesnake and moccasin, we found a loss of nearly seventy-five per cent.

Aqueous solutions still preserve the acid reaction, and, apparently, all the properties of the fresh venom, excepting that the intensity of the poison is somewhat diminished.

These venoms, or their solutions, can be subjected to the boiling temperature of water (except the venom of the *Crotalus adamanteus*) without a complete destruction of their poisonous power, but with a noticeable alteration of their physiological properties. In the case of the *Crotalus adamanteus*, or the *diamond-back rattlesnake*, the toxicity of the venom is destroyed at a temperature below 80° C. (176° F.). As yet we have not had the opportunity of studying the venom from the *Crotalus durissus*, or other species of rattlesnakes, but one of us (Mitchell) determined years ago that the poisoning power of the venom of the *durissus* is not destroyed at a boiling temperature. It certainly is a very curious fact that the venom of the *adamanteus* is so different from other venoms, in being destroyed at so low a temperature, and our knowledge at present is not such as to offer any satisfactory explanation.

The external symptoms caused in animals by these several venoms—cobra, rattlesnake, moccasin, or copper-head—do not differ radically, save in degree. In all alike there is some primary heart disturbance, temporarily lowered blood-pressure, fatal enfeeblement of the respiratory centres, and local

[1] For the discussion elicited by this paper see page 480.

effusion of blood with lessening or loss of its power to clot. These latter symptoms are best seen when the animal survives for some hours or a day, and then also is noticeable the breaking-down of the capillaries and the tendency to local putrescence and gangrene.

There are, however, certain symptoms which make it probable that, as our studies already indicate, we shall be enabled, after further investigation, to point out certain differences which may make it possible to discriminate any one form of poisoning from the others. Beyond a doubt, cobra venom is the most intense in its poisonous power, the venom of the copper-head next, then the moccasin and rattlesnake. Our investigations in this line are as yet far from complete, and we accordingly do not assert these facts as being final or at all conclusive.

The statement of Gautier, of Paris, that he had found an alkaloid in cobra poison resembling a ptomaine, has not received any support from what we have done in the chemistry of venoms; nor has Prof. Wolcott Gibbs been, so far, any more fortunate in finding an alkaloid in the *Crotalus* poison with which we supplied him. Our work has however resulted in the isolation of three distinct proteid bodies, of which two are soluble in distilled water, and one is not. Of the former two, one is incoagulable at a temperature of 100° C. It may be obtained by boiling venom, which throws down or destroys all the other proteids, and then filtering, or by dialysis.

The fact that this proteid remains uncoagulated by boiling and will dialyze, renders it certain that it belongs to a peculiar class of bodies which are ordinarily the result of peptic or tryptic digestion, and are known as peptones. In order to determine more definitely its character we prepared a solution of *moccasin* venom by the first process, and subjected it to a careful series of tests, designed to determine more exactly its place in the family of proteids, and with these results:

(1) Readily dialyzable.
(2) Not coagulated at a temperature of 100° C.
(3) Reaction with the xantho-proteic test (nitric acid and ammonia).
(4) Reaction with Millon's reagent (mercuric nitrate).
(5) No precipitate with weak or strong nitric acid.
(6) No precipitate with CO_2.
(7) No precipitate with ferric chloride.
(8) No precipitate with cupric sulphate.
(9) Precipitated by mercuric chloride.
(10) Precipitated by absolute alcohol.
(11) Gives a faint reddish tinge with a strong solution of potassium hydrate, and a trace of cupric sulphate.
(12) Not precipitated by strong acetic acid (glacial).
(13) Precipitated by very dilute acetic acid, precipitate being redissolved by further addition of acid.
(14) Full reaction with Adamkiewicz's test for peptones.[1]
(15) Precipitated by adding a large quantity of sodium chloride, the precipitate being redissolved on the addition of a large quantity of glacial acetic acid.
(16) Precipitated by mercuric nitrate.
(17) Precipitated by absolute alcohol, precipitate being apparently redissolved on the addition of water.
(18) Precipitated by saturation with potassium hydrate, precipitate being redissolved by the addition of nitric acid, with the formation of a decidedly yellow solution (xantho-proteic) which becomes decolorized by addition of acid.
(19) Precipitated by potassium ferrocyanide in the presence of weak acetic acid.

In a critical examination of these reactions it will be observed that while the peptone in question answers to these tests in such a positive manner as to place the matter of its nature beyond doubt, there are certain reactions which are so novel as to give this body characteristics which will distinguish it from all others of its class. These peculiarities are to be found in Nos. 13, 15, and 18. We are not aware that there is any other peptone giving such reactions by these tests.

But what is much stranger is that the peptone we have discovered is the only one as yet known to constitute a portion of a secretion, or to originate within the living body in any way except as a product of the digestion of proteids.

Some of the solution of this proteid being allowed to dry at a temperature somewhat below 100° C., it was afterwards found impossible to completely dissolve it in distilled water, the mixture remaining full of coagula, which appear to be wholly insoluble. When the coagula are filtered off, it is found that the filtrate gives all the reactions as before, although the poison in it, of which we will make further mention, appears to have entirely lost its power; nor were we able to demonstrate the existence of any toxicity in the coagula. We, therefore, do not know whether after the boiling of *moccasin* venom there remain two proteids in solution or one, but the fact of the complete loss of toxic power, under the circumstances just described, indicates that the two proteids formed in the last instance result from the breaking up of the original peptone. It seems strange, however, that, if the original body be broken up, the peptone which still remains in solution should retain the chemical peculiarities of the original substance, and answer to all the tests as we have carefully determined. The dialyzed peptone from the *Crotalus*, when dried at 40° C., entirely redissolved upon the addition of distilled water, and is poisonous, and also answers to all the above tests.

The second proteid separated by us from the original venom solutions is quite as interesting as the peptone.

We have already alluded to the fact of the occurence of a precipitate when fresh venom or its aqueous solution is allowed to stand for some hours undisturbed. The appearance of this precipitate gives one the impression of its being an albuminous body, and this only seems the more probable since the precipitate is entirely dissolved by the addition of a small amount of sodium chloride, very weak acids, or alkalies. But in order to determine more fully the nature of this substance, we prepared an

[1] As this test is not to be found in the ordinary text-books on physiology or physiological chemistry, we will state that the test consists in first adding a little sodium chloride to the suspected mixture, then some strong acid acetic, followed by acid sulphuric. This gives a lake color turning to violet, and the top of the solution has an opalescent olive tinge.

aqueous solution of *Crotalus* venom and allowed it to stand for twenty-four hours. The supernatant liquid was decanted without disturbing the precipitate, which was then repeatedly washed with distilled water until the decanted liquid gave no reaction for albuminoids and chlorides. The precipitate thus prepared, and which, of course, is wholly insoluble in distilled water, gave the following reactions:

(1) Dissolving by the addition of a small amount of sodium chloride.
(2) *Partially* precipitated from weak solutions of sodium chloride by addition of sodium chloride to saturation.
(3) Soluble in weak solutions of magnesium sulphate, but apparently *entirely* precipitated by addition of the salt to saturation.
(4) Precipitate soluble in weak acids, and again precipitated by addition of strong nitric acid.
(5) Gave proteid reaction with xantho-proteic test.
(6) Gave proteid reaction with Millon's reagent.
(7) Coagulated in weak neutral saline solutions at a temperature of about 68.5° C.

The precipitate obtained by the addition of magnesium sulphate (3) is flaky in character, contrasting with the fine precipitate deposited by saturation with the sodium chloride, and was much more abundant.

These reactions indicate without doubt that the precipitate is a proteid belonging to the *globulins*, and that it most resembles *paraglobulin*.

We have also obtained this substance during the process of the dialytic separation of the peptone, when the globulin precipitates within the dialyzer, and it may be separated by filtration or decantation and washings. The globulin principle obtained from *moccasin* venom differs from that obtained from the *Crotalus* in that (1) by boiling it is entirely dissolved in the water, instead of being coagulated; (2) that it requires much stronger alkaline and acid solutions to dissolve it.

After the extraction of the *peptone* and *globulin* principles, there still remains in solution a third body, which becomes turbid at a temperature of about 65.5° C, and coagulates a few degrees higher, and which gives reaction with the xantho-proteic and Millon's tests for proteids, and is precipitated with weak alkalies or acids. We have not as yet been able to isolate this proteid free from contamination with the globulin and peptone principles, but judging from the fact of its perfect solubility in water, the point of coagulation and behavior with dilute alkalies and acids, it is an *albumen*. As ether does not precipitate it, it is more akin to *serum-albumen* than to egg-albumen. We are now endeavoring to obtain this principle pure by dialyzing the peptone off, and afterwards separating the globulin principle from it by filtration, when we hope to be able to study its properties with more definiteness.

The whole subject of the chemistry of proteids is as yet in such an uncertain and extremely unsatisfactory condition that the best we can do now is simply to indicate to which general class of proteids these several bodies belong, and in order to distinguish them, we propose therefore for the present to call them *venom-peptone*, *venom-globulin*, and *venom-albumen*.

Our study of the physiological properties of this *venom-peptone*, though incomplete, clearly shows that while it is poisonous, it is far from possessing all the poisonous features of venom. It is much slower in its action than venom, and the local effects produced by it are of an œdematous character, contrasting strongly with the action of the pure venom, which almost immediately causes great darkening of the tissues, due to infiltration of blood which is wholly or at least partially incoagulable. When the venom-peptone is injected into the breast muscles of a pigeon, if the animal dies within an hour or so, there is scarcely any appreciable local effect, but if the dose has been smaller, the first local effect observed is a considerable œdematous swelling in the form of an abruptly protruding lump, but without any dark discoloration. At the end of twenty-four or thirty-six hours some slight discoloration is at times observed beneath the skin, and after forty-eight hours there is a discharge from the swelling of a putrescent, muddy-looking serum. If the muscles of the side are now cut into, they will be found to be considerably congested, to be marked with greenish streaks, and to give off horrible putrefactive odors. In a pigeon, killed before the end of twenty-four hours, we found beneath the œdematous swelling a cavity about an inch in diameter, which was full of broken-down tissue, having a muddy, gangrenous appearance, and a putrefactive odor, while the surrounding muscular tissues were normal in appearance. Judging from the fact that the venom-peptone does not give rise to any darkening of the muscular tissues within a short while after injection, and, indeed, as it seems probable, not until putrefaction has set in, it seems to us likely that the darkening and congestion which ultimately occur, are to be regarded as mere secondary effects, and due to the putrefactive changes induced by the poison. The remarkable power possessed by this poison to cause putrefaction in the living tissue in so short a time is astonishing, and will exact a long and patient investigation.

These differences between the effects of the *venom-peptone* and pure venom lead us to believe that the former is not the only poisonous principle in venom, and that it is the least important in point of activity. We have been so fortunate as to find a second poison factor, and one of intense activity, in *venom-globulin*. This poison is of such virulency that one-twentieth of a grain is sufficient to kill a strong pigeon in a little over two hours, and to give rise within a few minutes after injection to the production of enormous infiltration of blood into the neighboring tissues.

In two experiments made on rabbits to determine the actions of these two principles on the blood-pressure, we found that the *venom-peptone* caused an immediate fall of blood-pressure to about one-half of the normal, after which convulsions came on accompanied by a rise of pressure to above the normal. The injection of several more doses did not affect the pressure as did the first dose—these results corresponding to what we have

observed in experiments with the fresh venom. The *venom-globulin* poison seems to be devoid of any action on the blood-pressure, except to make more prominent the so-called vaso-motor curves. We also noticed in these experiments that the *venom-globulin* gave rise to bloody extravasation in the peritoneum, such as is observed in venom poisoning, whilst the *venom-peptone* did not.

As yet we have not satisfied ourselves as to whether *venom-albumen* is a third poisonous factor, since we have been unable to isolate it in a condition in which we were satisfied as to its absolute purity, on account of our having been baffled so far in completely getting rid of the venom-globulin. The results, however, obtained from our very incomplete study of the physiological properties of the *peptone* and *globulin* principles indicate that they fully represent all the poisonous qualities of venom, the *venom-globulin* being decidedly the more poisonous of the two, and, undoubtedly, the essential poisonous element.

Up to this date, all observers have regarded the venoms as representing a single poison. We have been able to show that the venom of the *moccasin* and *C. adamanteus* contains three proteids—one analogous to peptones, and a putrefacient; one akin to globulins, and a much more fatal poison, probably attacking the respiratory centres, and destroying the power of the blood to clot; and a third resembling the albumens, and probable innocent.

Finally, we have learned that the poisons of the rattlesnake (*C. adamanteus*), copper-head (*Agkistrodon contortrix*), and moccasin (*Toxicophis piscivorus*) are capable of being destroyed by bromine, iodine, bromohydric acid (thirty-three per cent.), sodium hydrate, potassium hydrate, and, as Lacerda has shown, by potassium permanganate.

The separation of the two poisons necessitates, of course, a long and elaborate series of researches, the results of which we hope to report in future.

LABORATORY OF PHYSIOLOGY,
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MEDICAL PROGRESS.

DANGER OF PUNCTURING OVARIAN CYSTS.—PROF. ZWEIFEL relates a case in which dangerous symptoms, indicating acute peritonitis from the passage of material from a cyst of the left ovary, followed an exploratory puncture of the second largest needle of Potain's aspirator. The symptoms—pain, vomiting, and collapse—were so marked that laparotomy was immediately performed, and a large cyst removed. He found that a portion of the contents, about the size of a walnut, had escaped into the peritoneal cavity. The patient had no bad symptoms afterward. Though this was Zweifel's fifty-fifth laparotomy, an exploratory puncture in his hands has heretofore had no evil results. He thinks, however, that the puncture should not be made, unless ovariotomy can be immediately performed if necessary.—*Centralbl. f. Gynäkol.*, February 17, 1883.

TREPHINING IN INJURY OF THE HEAD.—MR. MESSITER read a paper, before the Midland Medical Society, on trephining in injuries of the skull, giving details of five cases in which this operation had been performed at the Guest Hospital, Dudley. He thinks that trephining early in many cases of cranial injury was, with the aid of Listerism, of the utmost importance.—*British Med. Journ.*, April 7, 1883.

DANGERS OF IODOFORM DRESSINGS.—Iodoform is an excellent dressing for sluggish and fungous sores, but may be dangerous if used on large, recent wounds. König records thirty-two cases of intoxication from it, with nine deaths.—*Bull. Gén. de Thérap.*, March 30, 1883.

NEPHRECTOMY.—MR. JOHN LLOYD showed, for Mr. West, before the Midland Medical Society, a kidney which the latter had removed through a lumbar incision. The patient, a boy, æt. 15, received an abdominal injury in November last, which was followed by hæmaturia, development of a lumbar tumor, pus in the urine, and pyrexia. In December, the aspirator drew off fifty-five ounces of purulent fluid. This was repeated a week later, and followed up by a lumbar incision and the insertion of a drainage-tube. Eighty ounces of purulent ammoniacal fluid passed daily through the tube. As emaciation was rapidly progressing, nephrectomy was performed. The kidney was eight inches long, four broad, three thick, and weighed ℥xvj.—*British Medical Journal*, April 7, 1883.

UMBILICAL CANCER.—M. DEPRÉS reported to the Société de Chirurgie, Paris, the removal of a cancerous tumor of the umbilicus from a man æt. 75. While dissecting it out he found that it penetrated the peritoneal cavity at the umbilical ring, and that it was necessary to open that cavity in order to completely extirpate it. He included a portion of the epiploon in the ring, and fixed it there by sutures, in order to facilitate union. The wound was dressed without antiseptic precautions, and union took place by first intention in almost the whole extent of the wound. M. Deprés is not an adherent to Listerism, and thinks that the peritoneal cavity may be safely operated upon without such antiseptic precautions.—*L'Union Méd.*, March 29, 1883.

PARENCHYMATOUS INJECTION OF CARBOLIC ACID.—Bertels has used injections of carbolic acid in a case of cynanche sublingualis with success. SKIBNEWSKI (*Vratsch*, 1883, No. 1) has used the same treatment in two very bad cases, with excellent result. In the first case the disease had been progressing for some time, until the throat and mouth were so much affected as to seriously interfere with swallowing and speech. This was also the case, to a greater extent, in the second. In the first case thirteen injections, two per cent., were made in five days, and grs. xij of the acid used. The relief was very quick in one night, and in ten days the patient was discharged. The result in the second case was still more satisfactory. The disease had lasted four days, the tumor extended down to the clavicle, swallowing and speaking impossible, great cyanosis, tongue immovable. The injections were made in the afternoon, and the next morning the tumor was so much reduced that swallowing and speaking could be performed.—*Centralbl. f. Chirurgie*, No. 13, 1883.

TRANSPLANTATION OF OVARIAN CYSTS.—DR. EDWARD MALINS describes five cases in which ovarian cysts were transplanted to a new situation. In one the separation was not absolutely complete at the time of operation, though the transplantation was advanced. In three others the union from the place of original development was entirely severed, and a connection established with fresh structures. The process by which this was accomplished created much disturb-

ance for a time, but the cysts afterward appear to have settled down with a singular accommodation on the part of their surroundings. Of the five cases recorded, four were operated upon and recovered. In the fifth case the extent of the chronic pelvic peritonitis, due to rupture of a suppurating cyst, showed that an operation would have been useless.—*Lancet*, April 7, 1883.

Etiology of Tuberculosis.—MM. Raymond and Arthaud, in closing an elaborate paper in the *Archives Générales de Médecine*, April, 1883, give the following *résumé* of their experiments: "All the experiments of inoculation with non-tuberculous substances have absolutely given us nothing, whilst analogous trials with true tubercle have constantly produced general tuberculosis, a result which, as we think, should be attributed to the precautions which we have taken, precautions bearing on the local traumatism and on the nature of the tuberculous products, taken as fresh as possible. We have been careful to place the animals under the best hygienic conditions, and under the strictest surveillance. Experience has proved that we can render animals tuberculous almost at will; for example, the monkey. To attain this result, it is sufficient that animals should be badly nourished, subject to cold, etc. The importance of this remark should not, however, be exaggerated, for even in monkeys, as the experiments of Dieulafoy and Krishaber show, the inoculation of putrid or inert material never sets up tuberculosis if the animals are well cared for."

Preservation of Urine for Microscopic Examination.—According to Dr. Curtis, the addition of about grs. iv of chloral hydrate to ʒiij of urine will preserve it for a month, if kept at ordinary temperatures. —*L'Independente*, March 25, 1883.

Quinine in Ear Disease.—Dr. Voltolini (*Monatsschr. f. Ohrenheilk.*) says: The efficacy of quinine in these diseases does not need further demonstration; but the question now is, not so much as to the use, as its abuse in therapeutics. He warns us against the enormous doses that are frequently prescribed, which, whether given at once or at intervals, are likely to provoke grave aural and ocular troubles. The troubles which these very large doses produce on the ear, and which may result in deafness, consist anatomically in hyperæmia, principally of the labyrinth.—*Ann. des Mal. de L'Oreille, du Larynx*, March, 1883.

Cyst of the Pancreas; Operation.—Prof. Gussenbauer reports the case of a man, æt. 40, who, eight weeks previously, after a hearty meal was taken with an attack of gastricismus. He went to Prof. Pibrain's clinic, where physical examination showed a rapidly increasing tumor situated below the stomach, and which gave distinct fluctuation. Gastric and intestinal disorders supervened, with considerable emaciation. Prof. Gussenbauer, after examination, diagnosticated a retro-peritoneal tumor, though he could not define its nature; but a solid tumor being thrown out on account of the clear fluctuation, a cancerous growth on account of the constricted base, and an abscess on account of the absence of inflammatory symptoms, he was inclined to think that it was a cystic growth. On studying the literature of the subject, he found that only cysts of the pancreas and hematoma of the suprarenal capsules had been found in this situation, and with these symptoms. He also concluded that the cyst was attached to the peritoneum. The operation for its removal was performed on December 21, 1882. After opening the abdomen and reaching the cyst, it was punctured by a trocar and the contents, about four pints, removed. Chemical and microscopic examination showed that the fluid was composed of altered blood. The recovery took place without any bad symptoms, except that the man has a fistulous opening about two inches long.—*Wiener Medizin. Presse*, April 1, 1883.

Climacteric Dyspepsia.—Mr. Prangley read a paper before the Norwich Medico-Chirurgical Society on a form of dyspepsia which he termed climacteric. It occurs in women between the ages of forty and fifty. The symptoms are those of great nervousness, with pain on the top of the head, noises in the ears, hot flushes and chills, with curious sensations in the abdomen; the dyspeptic symptoms are those of precordial distress, palpitation, constipation, coated tongue, and foul breath. The treatment consists in the administration of bismuth, bicarbonate of potash, and ammonia, adding valerian if the nervous symptoms predominate, followed by quinine, strychnia, and dilute nitro-muriatic acid.—*British Med. Journ.*, April 7, 1883.

Vertebral Caries and Perforation of the Œsophagus.—Penzolat records three cases of this rare affection, in one of which the complication was recognized during life. In the first, during life the signs of pulmonary and intestinal tuberculosis were recognized. The autopsy showed caries of the fifth and sixth cervical vertebræ, with perforation of the œsophagus at the level of the fifth. Second. Compression of the cord following vertebral caries, with symptoms of paralysis toward the end of life. The autopsy showed caries of the first four dorsal vertebræ, with an opening into the œsophagus almost one-half inch long. Third. Male, æt. 53, phthisical. Caries of the first dorsal vertebræ. No symptoms of compression. The opening in the œsophagus was diagnosticated by the expulsion of a large quantity of muco-sanguinolent material, strongly contrasted with the rare purulent expectoration of the preceding days. Violent cervical pain; deglutition impossible; tumefaction of the posterior wall of the pharynx. Autopsy showed caries of the first four dorsal vertebræ, with a perforation at the situation of the first.—*L'Union Méd.*, April 3, 1883.

Hepatic and Splenic Cough.—M. Trastour calls attention to the fact that a cough due to hepatic or splenic affection may lead, on account of the concurrence of symptoms simulating phthisis, to a diagnosis of the latter disease. In eight cases with bad cough, two occurred in malarial subjects; the others, on examination, showed engorgement of the liver. The cough disappears when purgatives, saline cathartics, mineral waters, quinine, etc., are exhibited.—*Revue de Méd.*, January, 1883.

Subpectoral Abscess Opening into the Lung.—Maria G., æt. thirty-eight, entered L'Hotel-Dieu, service of M. Lacombe, on May 21, 1882. No previous disease, no syphilitic history, no previous thoracic trouble. After prolonged chilliness, she was taken with pain in the whole upper right extremity, with chilly sensations, fever, anorexia, etc. The febrile state resulted in the formation of several abscesses, first in the neck, then in the axillary region and the anterior thoracic wall. The neck was tumefied, and on the inside there was a purulent collection, which opened spontaneously in about three weeks. The inflammation caused considerable œdema of the whole limb, which persisted till death. After the abscess opened, the fever abated and the appetite returned. Then other abscesses appeared: one at the internal anterior part of the axilla, another in front of the middle sternal region. Up to this time there had been no cough. Some days after the appearance of the axillary abscess, at this time about the size of a hen's egg, an incessant cough came on; at the same time there com-

menced an abundant expectoration, which soon became purulent. The two abscesses diminished as soon as the cough appeared. On entering the hospital she was very feeble and emaciated. Of the two suppurating centres already mentioned, the external is slightly projecting, its base indurated; the internal is sunken. On pressing the skin at this point a sinuous pouch is recognized. This pressure produces a gurgling sound and a hydroaëric bruit. From this point upward toward the clavicle there is subcutaneous emphysema. When the patient coughs the pouch swells out, and the gurgling sound is recognized. There is slight pain along the line joining the two abscesses. Heart and lungs sound. No diarrhœa and no fever.

Subpectoral abscess opening into the lung was diagnosticated. There being no signs of tuberculosis, the idea of a pulmonary cavity opening outward was eliminated. The only stethoscopic signs are some subcrepitant râles at the base of the right lung. There is a constant cough, the sputa being very purulent. Next day the axillary abscess opened, and the expectoration was considerably diminished. On May 27th, the opening being insufficient, M. Peyrot made two large, deep incisions, and a third below the clavicle. Two drainage-tubes were passed between the abscess and the upper incision, and the wounds were dressed antiseptically. Though the local state remained satisfactory, the patient grew worse and died May 31st.

Autopsy twenty-four hours after death. There was a large focus of suppuration below the right pectoralis major muscle, triangular, reaching from the sternum to the axilla, from the nipple to the clavicle, which has destroyed the greater part of the pectoralis major muscle and the aponeuroses of that region. The intercostal muscles were denuded and bathed in pus. At the side of the clavicle the abscess reached to the subclavicular vessels. Behind the remains of the pectoralis minor, in the third intercostal space, was a perforation about the size of a ten-cent piece. Seen through this perforation the lung appeared perfectly sound, being maintained at this level by pleuritic adhesions. There was no preëxisting lung cavity, and no bronchial ulceration. The pus was probably absorbed as by a sponge. The other organs were healthy.—*Le Progrès Méd.*, March 24, 1883.

NAPHTHALINE DRESSING.—DR. FISCHER recommends naphthaline as an antiseptic in direct applications, in the same manner as iodoform is used. Ulcers and cancers with fetid secretion rapidly take on a good appearance. It has been largely employed for filling the cavity after extirpation of the rectum, in cancer of the vagina and os, in large wounds with sinuses, in gangrene following fresh burns, amputations, etc. In grave erysipelas (according to Fischer) following articular resections, the wound should be completely filled with naphthaline; the erysipelas quickly disappears.—*Journ. de Méd. de Paris*, March 24, 1883, from *Gaz. Méd. de Strasbourg.*

GASTROSTOMY AT ST. BARTHOLOMEW'S HOSPITAL.—MR. HOWARD MARSH reports the following case: E. C., æt. 60, entered St. Bartholomew's Hospital on April 22, 1882. During the past five months he had suffered pain, with gradually increasing dysphagia, spasmodic cough, and profuse frothy mucous expectoration, occasionally streaked with blood. No abnormality in pharynx or neck. A medium-sized œsophageal bougie could not be passed beyond about the level of the sixth cervical vertebra, and a No. 6 catheter was stopped at this point. Instruments caused violent suffocative cough, and profuse expectoration. For a few weeks he improved on a fluid diet, but soon grew worse again, with rapid loss of flesh.

The preliminary step for gastrostomy was performed on July 22d, under the carbolic spray. The abdomen was opened by an incision three inches long, commencing two inches to the left of the median line, and two inches below the edge of the costal cartilages, and passing downward and outward. The middle of the anterior or upper surface of the stomach was stitched to the abdominal wall, and the wound dressed with carbolic gauze. He was fed after the operation with enemata of milk, milk and eggs, and beef-tea and brandy. Small hypodermatics of brandy were occasionally administered. On July 30th the stomach was opened with a tenotome, by an incision just large enough to admit an India-rubber tube of the size of a No. 10 catheter. No food was introduced, as he lived well enough on enemata and whatever fluids he could swallow. On August 18th a large-sized flexible tracheotomy-tube was introduced through the incision, but there was so much difficulty in passing food through it that the former methods of feeding were continued. The patient gradually sank, however, and died September 14th.

Necropsy.—At the lower margin of the opening into the stomach, and close beneath the skin, was a nodular mass of cancer, as large as a horse-chestnut. About half a pint of brown, purulent fluid lay encysted between the cardiac end of the stomach, the splenic flexure of the colon, the omentum, and the left leaflet of the diaphragm; there was no fluid in the peritoneal cavity, and no general peritonitis. The œsophagus was infiltrated with hard cancer from the cricoid cartilage downward for about seven inches; and below this were many nodules of cancer lying in its wall as far as its juncture with the stomach. The upper seven inches was a complete cancerous tube, the walls being half an inch thick. From the upper, back part of the tube sprang a flattened mass of cancer, which had pushed the œsophagus and trachea forward. The bodies of the second and third dorsal vertebræ were partly infiltrated by the cancer.—*British Med. Journ.*, March 31, 1883.

COPPER IN CANNED VEGETABLES.—M. GALLARD publishes in a brochure the report of the committee appointed to investigate this evil, composed of MM. Wurtz, Girard, Brouardel, Chatin, Rochard, and Gallard. 1. The green color, sought for by consumers, can be given to canned vegetables only by using the salts of copper, though nothing is thereby added to their alimentary properties. 2. The quantity of copper really necessary for this color is very small, and, if this is not exceeded, is not likely to prove detrimental to the health of the consumer. 3. But if by any means this small quantity is exceeded, serious troubles are likely to result; and on this account the committee deems it advisable that the use of copper in this manner be prohibited.—*Archives Gén de Méd.*, April, 1883.

RADIO-CARPAL RESECTION.—M. OLLIER has performed this operation twenty-two times. The chances of success, he thinks, are greater if it is performed early. After operating he dresses the wound with iodoform, with a modified Lister dressing. The results are variable; the solidity of the surfaces depends largely on the age of the patient; and from an orthopædic and functional view, he has noticed that the movements of flexion are easily recovered. Extension returns more slowly: It may return when the radial and ulnar epiphyses are restored. If relapses occur, M. Ollier believes that they are due to insufficient eradication of the diseased portion of bone. In all cases, he believes that it is an operation which will preserve a useful limb, and often prolong life.—*Progrès Méd.*, April 7, 1883.

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MIGRAINE AND ITS TREATMENT.

If repeated attacks of migraine, as indicated in our last issue, may set up pathological processes in the cerebral organs, this malady deserves careful consideration. To understand its nature, to compass its cure, and thus prevent the secondary changes, are, clearly, very necessary duties. Before we can form a proper therapeutical diagnosis, we must have a true conception of its character—a knowledge of the several elements which make up the morbid complexus. Migraine is commonly regarded as a neurosis—a functional nervous disorder—affecting the fifth nerve. Such a conception is necessarily partial. It is a neurosis, and something more. As a neuropathic disorder, its seat is not limited to the fifth nerve, for the stomachal derangement with which some cases open and others close, signifies derangement of the vagus. The nucleus of the fifth and that of the vagus lie in close juxtaposition and have intimate relations. The mechanism in the production of a seizure may consist in a primary affection of the fifth, the transference of the irritation to the nucleus of the pneumogastric, or in a primary implication of the terminals of the latter in the stomach, and the transmission of this impression to the nucleus of the former. There are then two forms: a trifacial, and a pneumogastric. There are, however, two conditions of the sympathetic which may accompany either of these forms: one, a condition of vaso-motor tetanus; the other, a condition of vaso-motor paresis. Eulenburg, indeed, regards sick-headache as a disorder of the sympathetic. In that form characterized by vaso-motor constriction, the face is pale, the pupil dilated; in the other form, the face is flushed, the pupil contracted. According to Féré, whom we have already quoted, those cases are most serious in their ultimate action on the brain in which the state of the vessels is that of contraction. Persistent seizures of either form of the malady must exercise a deleterious effect on the nutrition of the brain substance ultimately. Hence the importance of judicious treatment.

The management of any case, to be successful, must be concerned with the functional condition of the organs affected. Do the attacks begin with stomachal disorder? A systematic plan of diet, in which, as a rule, the starchy, saccharine, and fatty elements of the foods are either cut off, or modified, should be inaugurated at once. Usually, there are individual peculiarities—idiosyncrasies—which must be heeded. Beside the regulation of the diet, remedies to allay the irritability of the end organs of the pneumogastric, are necessary. The results are the more satisfactory if these remedies exert that therapeutical action, formerly known as nervine tonic. First in value is arsenic, of which two drops of Fowler's solution, three times a day, should be given continuously for several months or longer. For the same reasons, oxide of silver (one grain *ter die*) is a valuable remedy, with the limitation imposed by the danger of staining the skin. Fermentative changes with or without the presence of *sarcina*, acidity, the condition of lithæmia, etc., require the sulphites, creasote, the mineral acids, rarely alkalies, according to the special derangements and complications present.

When some modification of the fifth nerve is the initial change, remedies must be addressed to it. The general state, is, as a rule, that of depression. The subjects of this disorder are apt to be excitable or "nervous," and they tend to anæmia rather than plethora, hence the utility in many cases of phosphites and phosphates, of nux vomica or strychnine, especially when an atonic dyspepsia is present; and of such nervines, so-called, as guarana, paullinia, caffeine, ammonia, etc.

As the condition of the intra-cranial vessels may play so important a part in subsequent pathological processes, it is very necessary to relieve the functional derangements of the sympathetic. Do we have to deal with the tetanic state of the vessels? Then, the remedies most useful are nitro-glycerine by the stomach, nitrite of amyl by inhalation, bromide of potassium, etc. When this symptom is sudden in onset and violent, the inhalation of amyl nitrite will be most promptly efficacious. When the vascular spasm is thus relieved, the migraine gets better. When this state occurs more slowly, nitroglycerine is preferable. This remedy has valuable

curative properties in those cases characterized by persistently high arterial tension, and hence it may be administered during the interval between the seizures as a prophylactic measure. Bromide of potassium is highly useful in the same group of cases. Full doses (half a drachm to a drachm) must be prescribed when the attempt is made to abort an impending attack—a result which may sometimes be attained. During the interval the bromide may be used to procure permanent results. The spoliative effect of this remedy may be lessened by the conjoint administration of iron, arsenic, phosphates, etc. We have known of cures effected by persistent but careful administration of the bromide of potassium.

The opposite state of the sympathetic system—paresis—must be remedied by agents acting in an opposed manner. In cases characterized by a flushed face, a bounding pulse, injected conjunctivæ, etc., the appropriate remedies are ergot, digitalis, chloride of barium, strychnine, picrotoxine, etc. An efficient combination consists of the extracts of ergot and nux vomica, with digitalis in pill, given mainly in the interval between the paroxysms. A capital remedy in this form of migraine, as Frommhold long ago demonstrated, is a mild galvanic current, applied to include the pneumogastric and cervical sympathetic. The applications should be both labile and stabile—the interruptions slow—and they should be made daily for several months.

Notwithstanding the persistency with which attacks of sick-headache re-appear, from month to month, and for many years, a hopeful view may be taken of the prognosis, if the patient will submit to the dietetic conditions, and carry out faithfully the medicinal treatment. In most cases, the best results are had from a combination of plans: by combining the diet system with the remedies for each form of nervous disturbance. Various hygienic regulations need to be enforced. Individuals with neuropathic tendencies should be subjected to all the influences of the best hygiene, and this includes not only the climatic and civic agencies, but all the factors in the personal equation.

THE MICROCOCCI OF CEREBRO-SPINAL MENINGITIS.

THE presence of micrococci in the ventricular fluid of meningitis succeeding pneumonia and wounds of the skull, was shown by Klebs and Eberth, and the former also found in the ventricular fluid of a case of acute suppurative meningitis, in a school-boy of sixteen, an enormous quantity of actively moving monads, together with numerous cells. LEYDEN (*Centralbl. für klin. Med.*, March 10th) has recently more closely studied a case of primary cerebro-spinal meningitis from this standpoint. In a case which terminated unfavorably under his observation, some of the inflammatory fluid was withdrawn through the pia mater of the lumbar portion of the spinal cord, and studied with a Hartnack immersion lens; in it were found a large number of micrococci together with some exudation cells. The cocci, were, for the most part, oval and arranged in pairs, though frequently, also, isolated, and in chains of two or three diplococci. All of these organisms presented a pretty active trembling, but not forward motion. They resemble closely the cocci of pneumonia and erysipelas, but were larger and more strikingly oval. In certain of the double forms one of the cocci was quite small, the other larger and thicker. The same organisms were also found in the tissue of the pia mater.

Leyden has no doubt that we have here to do with an organism pathogenetic of meningitis, and easily distinguishable from the ordinary decomposition bacteria, which, according to Klebs and Eberth, also appear in the cerebro-spinal fluid of meningitis late in the disease. These organisms described by Leyden, also differ from the micrococci of diphtheria and pyæmia, although in pyæmic meningitis after wounds and operations, precisely the same organisms are found as in the pus and blood of pyæmia. On the other hand, the organisms found by Eberth in the lungs and brain in cases of meningitis bear a close resemblance to those found by Klebs in the ventricular fluid, as well as in the lungs in certain cases of pneumonia.

While Leyden admits a great similarity between the micrococci of the fresh exudate of cerebro-spinal meningitis, and similar organisms of pneumonia, he considers it highly probable that they are distinct, and points out the following differences: 1. Those of meningitis are larger; 2. Their oval form is more strongly pronounced; and 3. They are thicker, with a tendency to fission. He considers that the differences between those of meningitis and pneumonia are equally as great as between those of pneumonia and erysipelas. On the other hand, the resemblance between these three forms is a very striking one. All three are oval cells united into diplo-, but occasionally into strepto-cocci, and differ essentially only in their size and more or less distinctly expressed oval form.

That in these three diseases we have to do with one and the same form of bacteria, which produces now one disease and again another, is not probable, but it is of interest to know that three diseases, which in their anatomical picture and their course show much agreement, are caused by a similar micro-parasite. Pathological anatomy has long since shown an analogy between pneumonia and meningitis with erysipelas. These agreements appear important enough to justify calling attention to the

fact that erysipelas and pneumonia are not unfrequently associated with meningitis, while cerebro-spinal meningitis, even the epidemic form, is also occasionally accompanied by pneumonia.

PERINEPHRIC ABSCESS.

Perhaps the most distinguishing feature of the present time in the study of diseases is the substitution of exact for general knowledge, of precision for vagueness. In fact, it is by means of this process that differential diagnosis has become so much more reliable than heretofore.

Perinephritic, or, as Dr. John B. Roberts justly prefers to call it, perinephric abscess is a moderately common disorder, yet the study of its anatomical relations with the differing symptoms and physical signs, when it occupies this or that region about the kidney, has been scarcely attempted heretofore. It is, therefore, a valuable contribution to our exact knowledge of such abscesses that Dr. Roberts has made in a paper in the April number of the American Journal of the Medical Sciences. He arbitrarily divides the perinephric cellulo-fatty tissue into six regions, an upper, middle and lower, anteriorly and posteriorly, and then studies the anatomical relations in each region with the probable resultant symptoms of abscess in each situation. It is an attempt to clear up the obscurities which at present surround the subject. Its conclusions must be compared and corrected by subsequent experience.

Investigations of this kind are among the most valuable means of surgical progress, and as such we welcome the present study as a real acquisition.

THE CODE CONTROVERSY.

It was strongly urged at Albany when the New Code was first presented, that the only valuable expression of opinion is that which fully represents the true sentiment of the body uttering it, but the New Code supporters then refused to listen to the appeal of Dr. Squibb and others to postpone its consideration for a year, when the opinion of the profession concerning it could be ascertained (which, as the vote this year showed, would have prevented its enactment), or, indeed, to postpone the vote even for a day, but insisted upon its passage on the very same day upon which it first saw light. Such tactics are apt to provoke imitation on the part of those who have suffered from them, and who find in that fact their justification.

The advocates of the New Code in the New York Academy of Medicine are now themselves indignant at being exposed in their turn to the methods which they found so successful last year at Albany. A good cause has nothing to fear and everything to gain from the fullest discussion, and freest expression of opinion, and before a vote on so important a subject as the Code was taken last year at the State Society, or last week at the Academy of Medicine, due notice should have been previously given of the proposed action, so that every member could have fair warning to be present and poll his vote, and thus only the real expression of professional opinion on the subject could be obtained.

The general interest in the Code controversy does not seem to diminish. The Louisiana, Kentucky, and Alabama Medical Societies have again expressed, without a dissenting voice, their adherence to the National Code. The Alabama Society goes further, and urges upon the physicians of the State to give their patronage only to those journals, and to send their students only to those medical schools which are in sympathy with the National Code.

The Bellevue Hospital Medical College appreciates the spirit which is abroad, and does not intend that the sentiments of its faculty, in reference to this subject, shall be misunderstood, and it therefore states, at the head of its announcement for the ensuing year, that "The standard of medical ethics recognized by the College is embodied in the Code of Ethics of the American Medical Association."

As a further contribution to the history of the controversy, we may mention an ingenuous proposition suggested last week by the New York *Medical Record*, that a "lasting solution of the question would be arrived at if the [American Medical] Association itself would rescind all formal codes, and simply urge the profession to establish such ethical regulations as local circumstances might render most expedient."

ANALYSIS OF QUININE PILLS.

Our enterprising contemporary *The Pharmacist and Chemist*, of Chicago, has supplemented the investigations of The Medical News into the composition of quinine pills, by a series of analyses made by Mr. C. Lewis Diehl, of Louisville, one of the most distinguished pharmaceutical chemists in the country, and in its issue for the current month it gives the results with the names of the manufacturers, and the shortage found in the product of each.

The samples of two-grain quinine pills were purchased in unbroken packages in Chicago, in January last, and hence were manufactured probably before December 16th, when the results obtained by our Commission were published. The method of analysis pursued by Mr. Diehl was practically the same as was used by The News Commission, but the results in each case gave a greater deficiency of quinine than was found in our samples, and they also showed the existence of foreign alkaloids, none of which,

according to the official tests of the *United States Pharmacopœia*, were found by our Commission.

The results, as given by *The Pharmacist and Chemist*, are as follows:

Number corresponding to analysis.	Amount in grains of quinine in each two-grain pill.	Amount in grains of foreign alkaloids.
3	1.772	0.240
1	1.722	0.244
2	1.634	0.316
10	1.618	0.304
4	1.616	0.310
6	1.548	0.388
7	1.546	0.304
5	1.512	0.266
8	1.432	0.606
9	0.940	0.690

The importance of the results of these analyses of THE MEDICAL NEWS, and of *The Pharmacist and Chemist*, can scarcely be overestimated, and they show that if the leading manufacturing pharmacists desire to retain the confidence of the profession and of the public, they must revise their working formulæ, and by constant analysis, by competent chemists, of their finished products, be able to guarantee the accuracy of the composition of the preparations which are issued from their establishments.

THE QUALIFICATIONS OF A HEALTH COMMISSIONER.

THE term of office of the present Health Commissioner of the City of New York will expire shortly, and several candidates for the position are in the field. We have received a pamphlet of sixteen pages, containing a letter addressed to the Mayor of New York by one of the applicants, who has been for several years connected with the Bureau of Vital Statistics of New York city, and his selection of testimonials and of evidence that he is a suitable person for this important position is a matter of some interest.

The first testimonial which he offers is from a Professor in the New York Medical College to the effect that the applicant had studied Spanish under his direction. The second is that he was an acting assistant surgeon in the army in 1864–65. The third is from the surgeon in charge of the Army Hospital at which he served, testifying to his professional and social excellence, and gentlemanly traits. Next he tells us that he was presented with a gold watch and pencil by one hundred and eight wounded and disabled soldiers, when he left the hospital. The resolutions accompanying this present are not given—and we miss also his certificate of regular attendance at Sunday-school, and of successful vaccination, but no doubt these could be produced if necessary.

Twelve of the sixteen pages are occupied with a list of names of prominent physicians and business firms in New York City. They do not certify to anything or make any request, but we presume that they are intended to show the extent of the candidate's visiting list.

This mode of applying for an office, by means of a printed list of testimonials and sketch of the candidate's history, has been heretofore little used in this country although it is very common abroad. It is a very convenient method, especially for those who decide as to the claims of rival candidates, such as mayors, boards of trustees, etc., all of whom will no doubt strongly prefer this plan to that of personal interviews with the candidate's friends. In the present case, the convenience of such a pamphlet to Mayor Edson and John Kelly can hardly be overestimated.

The present Health Commissioner of New York, who has filled the office for a number of years with much success is Prof. Chandler, of Columbia College. He is a candidate for reappointment, but probably very few people know this except Mayor Edson, as he has not issued any list of testimonials.

The office of Health Commissioner of the City of New York is the most important position connected with public hygiene in this country, and should be filled by the best man who can be found. Before seeing the new applicant's book of testimonials, we thought that the wisest thing that Mayor Edson could do would be to reappoint Prof. Chandler;—and we are of the same opinion still.

POISONING BY DOSIMETRIC ACONITE.

OUR readers will remember that a new medical sect has arisen whose chief claim to distinction is that they employ the alkaloids in granules. They entitle their "system" *Dosimetry* or *Dosimetric*. Dujardin-Beaumetz reports a case of poisoning by the use of dosimetric granules of aconitine. As this case is curious our readers may be interested in the details. The patient for whom the nitrate of aconitine was prescribed in gradually increasing doses, finally experienced tingling in the tongue, vomiting, intoxication, coldness of the surface, feeble pulse, and other symptoms of poisoning. The dosimetric physician was called on for an explanation when such serious symptoms were induced by his remedies. To demonstrate his own confidence in the accuracy with which the granules were prepared, and to prove their innocuousness, the dosimetric physician, then and there, took sixty drops of the prepared solution—equivalent to one-eleventh of a grain of aconitine—and in five hours he was dead. The lesson to be learned from this accident is an obvious one. Granules, unless pre-

pared with great care, may contain an unexpected quantity of the alkaloid, and when a question of strength of any given preparation is to be determined, it were better to employ for this purpose some convenient animal—the Society for the Prevention of Cruelty to the contrary notwithstanding—than to offer one's self a sacrifice to misplaced confidence.

THE FEDERAL GOVERNMENT AND LOCAL SANITATION.

The Board of Health of the City of Pensacola has entered into an agreement with the U. S. Marine-Hospital Service by which its street-cleaning, garbage removal, drainage, and sanitary inspections will be conducted under its own direction, while the payment therefor will be made by the United States Treasury Department. This is a new departure in municipal sanitary work, and health officers have developed a corresponding interest in the matter. We do not see, however, that the Treasury Department can ratify any such agreement as General Hamilton has made with Pensacola, even if the special fund appropriated by Congress had already been placed at his disposal by the President, and this we understand has not been done. It is the introduction of contagious or infectious disease from foreign countries which the law authorizes the President to assist in preventing, and it requires a considerable latitude in the construction of the law to hold that all the expenses of local sanitation from May to November may be assumed by the general Government. And why Pensacola more than any other and every other seaport on the South Atlantic and Gulf coasts? All are equally exposed to the danger of importing yellow fever, and a preference of one port over others violates the Constitution directly.

REVIEWS.

Smallpox and Smallpox Hospital of New Orleans. Outline of Quarantine and Sanitary Operations of the Board of Health of the State of Louisiana During 1882. Pamphlet, pp. 27. New Orleans, 1883.

From this pamphlet, just issued by the Board of Health of Louisiana, we gather some interesting details concerning preventive sanitary work in that city. After the epidemic of 1877, when 1099 deaths were recorded, the disease gradually subsided. In 1879 the deaths numbered 141. Next year smallpox did not appear on the mortality lists. In 1880 1 fatal case occurred; in 1881 there were 5 deaths in 22 cases, and in 1882, 4[illegible] deaths among 1093 cases, the disease being evidently on the increase on account of the accumulation of unprotected persons in the city. New Orleans has a colored population of 60,000, most of which is unvaccinated. The Board is shown to have done its duty by earnestly recommending compulsory vaccination, by providing for gratuitous vaccination (during the year 4725 persons were vaccinated, over one-half of whom were colored), by having placed a warning flag on infected premises, or removing the patient to the smallpox hospital and thereafter fumigating the vacated rooms, and by having recommended the establishment of a new smallpox hospital. The present hospital is the private property of a physician, who takes care of the patients at a contract price of $1.60 each per diem. It consists of a large garden, long uncared for, and covered with dirty rags, bits of carpet, etc., in which are three shabby-looking buildings. Two of these are intended for the contract patients, while the other is occupied by the doctor and such "pay" patients as may come to him for treatment. In the public wards the utmost variety of old wooden and iron bedsteads, mostly deprived of their springs, is presented; and the mattresses, sheets, blankets, and quilts show a deplorable state of uncleanness, misery, and poverty. There are no curtains or shades to the windows to protect the sick from the glare of day; and ventilation has been forgotten. There were understood to be three or four nurses present, but it was impossible for the sanitary inspector or the investigating committee to learn what were their duties. The food seemed to consist of beans, hominy, and potatoes, articles little suited to sustain the strength of the patients in such a prostrating disease. The kitchen was furnished with a few pans and kettles, and had an old-fashioned privy attached. The inspector concludes thus: "The hospital is conducted and managed in an outrageous manner, is a shame to the City of New Orleans, and a disgrace to any enlightened community;" while the Investigating Committee sums up in similar language: "All we can say is, that a smallpox hospital, or any other hospital or asylum, intended for the relief of suffering humanity, organized, conducted, and managed as the Luzenberg Hospital of this city, is a disgrace to any city or town of ten times less importance and wealth than New Orleans. The fundamental fault lies, we think, in the contract system, which governs this institution. We cannot approve a system under which a consideration of —— per diem per head is paid for the treatment of destitute smallpox patients by any municipal authority to the private proprietor of a lot and a few rudimentary buildings decorated with the pompous and fallacious title of hospital." Hence the Board of Health recommended the building of a smallpox hospital for the city. This recommendation was approved and $5000 appropriated, but a difficulty appears to have been encountered in the selection of a site, an injunction having been granted against its erection in the proposed locality.

The smallpox patients are brought to this Luzenberg Hospital in the ordinary charity wagons that are used daily for the removal to the Charity Hospital of all cases of disease or injury, or in cabs, or spring wagons, or, as has happened, in the street-cars. These vehicles, after disposing of their dangerous loads, are used immediately all over the city in general business.

It appears also that the efforts of the Board to warn the public of the existence of the disease by means of the yellow flag were resisted, and that of the president to prevent the tearing down of the flag was defeated in the courts of justice; since which time, however, a bill has been passed by the General Assembly providing for the punishment by fine or imprisonment of persons who remove, tear down, or destroy the flags on infected premises.

Dr. Jones, President of the Board, concludes its defence by arraigning the City Council and the courts of justice:

"Did the City Council establish the Smallpox Hospital, as recommended by the Board in March, 1882?

"Did the courts of justice sustain the Board of Health in their efforts to protect the inhabitants of Louisiana

from the most foul and disgusting and contagious of modern or ancient diseases?

"Did the City Council provide the necessary means (special ambulances) for the conveyance of smallpox patients?

"To all these questions, I answer, 'No.'

"The City Council, up to the present moment, have done nothing to relieve the situation." etc.

But the Board of Health pamphlet does not give the whole of the facts. It makes no reference to the assistence given by the Citizens' Sanitary Association. While the Board recommends that an ordinance be passed prohibiting the use of public hacks or carriages for the transport of smallpox patients, the Association quietly presents the city with a special ambulance for use in such cases; and while the Board recommends compulsory vaccination, the Association, in the absence of compulsory laws, endeavors to accomplish the vaccination of the colored people by securing the coöperation of their preachers.

MANUAL OF AUSCULTATION AND PERCUSSION. EMBRACING THE PHYSICAL DIAGNOSIS OF DISEASES OF THE LUNGS AND HEART, AND OF THORACIC ANEURISM. By AUSTIN FLINT, M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, etc. etc. Third edition, revised. Pp. xii. 242. Philadelphia: Henry C. Lea's Son & Co., 1883.

THE second edition of this practical and justly popular manual, was given to the profession in 1880. The fact that it was exhausted, and a new one called for in 1882, is ample evidence of the positive merit it possesses. It is conveniently divided into eight chapters, and the student is gradually led up from a general consideration of physical signs in health and disease, to the differential diagnosis of diseased conditions by a knowledge of these physical signs. As in his courses of practical instruction, so in this book, the author's plan is to simplify the subject as much as possible; to consider the distinguishing characteristics of different physical signs as determined by *analysis*, and as based particularly on the variations in the intensity, pitch, and quality of sounds; to impress the facts upon the student and reader, that the significance of physical signs relates to certain physical conditions, and that close study of the physical conditions in health and disease, is a *sine qua non* of success, in both diagnosis and treatment. In this edition, the author also gives the modes by which pulmonary signs may be reproduced in the lungs after removal from the body, and by artificial illustrations.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, March 27, 1883.

THE PRESIDENT, T. M. MARKOE, M.D., IN THE CHAIR.

PIROGOFF'S OPERATION.

DR. GERSTER presented a patient upon whom he had performed Pirogoff's operation. The man has suffered seven or eight years from osteitic disease involving nearly all of the tarsal bones. He had been subjected to a great variety of treatment, and finally Dr. Gerster proposed this operation, which he performed in the ordinary manner five weeks ago. The os calcis was not wired to the tibia, but union between the bones took place by first intention. The man was able to stump around the ward on the seventeenth day after the operation. There was one and one-quarter inch shortening.

DR. H. B. SANDS then read a paper on

THE QUESTION OF TREPHINING IN INJURIES OF THE HEAD.

(See page 463.)

DR. POST referred to the case of Dr. Van Sinderen, who, when a boy, was kicked on the head by a horse. A portion of the cranial bone nearly as large as the hand was removed from one side, and pulsation could be felt as in one of the cases presented by Dr. Halsted. He grew up to manhood, studied and practised medicine, and finally died of cerebral disease following the loss of a member of his family.

Dr. Post also referred to two cases of compound fracture of the cranium which he had recently seen in hospital practice. The first was that of an Italian, twelve years of age, who was injured by a fragment of stone thrown from the roof of a house, producing a depressed compound fracture. The loose fragments were removed, the depressed portion elevated, and the boy recovered perfectly.

At nearly the same time, a child fell from the third or fourth-story window and received a complicated injury. There were extensive compound fracture of the skull with depression, fracture of the thigh, etc. Dr. Post elevated the depressed portion of bone, but the shock was so great from the complicated injury that the patient died the next day.

In another instance a child fell from a moderate height, and after being a little dazed for a time, recovered its senses so as to be able to walk and to talk, but in the course of half an hour it became completely comatose. It was supposed that intra-cranial hemorrhage had occurred, and he trephined the patient, but did not find any blood at the seat of the injury. To his surprise, however, the coma passed away and the child recovered. At nearly the same time he had a case of almost precisely the same character, in which the patient recovered. He had supposed that the occurrence of coma half an hour or an hour after the receipt of the injury was pretty certain evidence of hemorrhage, but in both these cases recovery took place after trephining, and yet no hemorrhage was found.

DR. L. A. STIMSON, in reply to Dr. Sand's request for the experience of the Society with reference to the rarer methods of treatment, narrated two cases, one of compound fracture without trephining, and one of simple fracture with trephining. The first case he saw in Bellevue Hospital. A young man came on foot one morning, having received a blow upon the back of the head a little to one side of the median line, inflicted by a chisel. The wound was a linear one, the bone was penetrated, and one edge of the cut portion of the skull turned outwards. There were no head-symptoms. The man remained in the hospital for a week or ten days without symptoms. Suddenly, without any warning, severe cerebral symptoms developed and the case terminated fatally within a few hours. At the autopsy there was found an incised wound in the soft parts and in the bone, with very slight splintering of the inner table. The dura mater was not injured. There was an abscess about the size of a hickory nut in the substance of the brain, separated from the dura mater by a layer of healthy brain tissue. There was a small amount of pus and serum between the dura and the bone at the point of fracture. Death was apparently the result of the inflammatory processes in the wound, and of its insufficient drainage.

The second case was one of simple fracture treated by trephining. A young man fell from a truck and was removed to the Presbyterian Hospital in a coma-

tose condition. Dr. Stimson saw him twenty-four hours after the receipt of the injury, and the patient was still comatose. There was no wound of the scalp and only a slight puffiness on the left side of the head, which the house surgeon said was not present when the patient was admitted to the hospital. There was slight weakening of the left forearm. There were no other symptoms. On the third day after the injury he received word that the patient had had several violent general convulsions, and on visiting the hospital he found him comatose, with high fever and considerable agitation, and with very decided paralysis of the extensors of the left forearm. Dr. Stimson made an incision upon the right side of the head along the motor area, and found a long linear fracture running from behind forward, parallel to and about three inches from the median line, with slight separation, but no depression of bone. He applied a small trephine at the site of the fracture, removed a button of bone, and found a thin layer of clotted blood between it and the dura. He enlarged the opening in the bone posteriorly and the dura bulged into it, but was without pulsation. He then applied the trephine a second time about one inch anteriorly to the spot where the first opening was made, removed a button of bone, and found a clot as before, and the dura also bulged. He then introduced the needle of a hypodermic syringe, and withdrew a small amount of fluid blood, after which he nicked the dura and evacuated about a drachm of blood, which may have come, however, from a vein wounded by the needle. The patient had no more convulsions. Toward the end of the operation he seemed to be more sensitive to the handling of the wound than at first. Afterwards he developed complete facial paralysis on the right side and died on the following day. No autopsy was allowed.

While he did not think that the soft parts should be divided in cases of simple fracture, or the bone trephined without positive indications, still he did not think that this operation is a grave one, if the dura is left uninjured. It seemed to him that interference in each case must be decided by a comparison of the possible benefits with the risks of the operation. In illustration of interference based on such comparison, he mentioned a case as follows: A woman had been insane for nearly two months after falling out of a second-story window, and receiving a scalp wound behind the motor region on the right side of the head. He trephined and explored for cerebral abscess. The dura was not opened; no evidence of abscess was obtained. The patient recovered from the operation and also from her insanity, within a fortnight. As in this case, the grave mental disability seemed to justify the operation, even in the absence of probable symptoms of abscess; so in another grave case, cerebral symptoms might make it proper to change a simple fracture into a compound one, in order to remove a depressed fragment or a clot.

DR. J. L. LITTLE referred to a case which came under his observation a few years ago at St. Vincent Hospital. The patient fell from a height and received a slight scalp wound, which exposed the left side of the frontal bone, about one inch above the angle of the eye. Exploration showed simply bare bone, without any evidence of fracture. The patient's symptoms were those of insanity, and she became so violent that, at the end of six weeks, it was arranged to have her removed to an insane asylum. Before leaving the hospital Dr. Little thought it best to trephine, and he removed two buttons of bone and also the bridge of bone which connected the two openings, but found nothing wrong. The inner table of the skull was perfectly normal. In less than twenty-four hours there was marked improvement in the symptoms, and within two weeks after operation the patient left the hospital perfectly sane.

Dr. Little further referred to a case which he saw in consultation with Dr. Van Wyck a few years ago. The patient was a child about seven years of age, who had received a compound fracture of the right parietal bone. There being no symptoms of injury to the brain, no operation was performed. About four weeks after, when Dr. Little saw it first in consultation, the child was suffering from symptoms of compression, paralysis, dilatation of the pupil, coma, convulsions, and had had several severe rigors. The wound was granulating. Dr. Little enlarged the wound, and removed several loose pieces of bone. There was no marked depression of the fragments. The symptoms of compression evidently not depending upon depressed bone, Dr. Little ventured to puncture the dura; but finding nothing, with a delicate bistoury he then punctured the brain substance, and found an abscess some distance below the surface. About a drachm or a drachm and a half of pus made its escape. The symptoms of compression rapidly disappeared. A fungus cerebri took place, which was treated by the application of dry absorbent powders and moderate compression. The child made a perfect recovery.

DR. POST referred to an autopsy in the case of a little girl, at which was found a depressed fracture of the skull, moderate in amount, that had not been attended with marked symptoms in the beginning. But after the lapse of several weeks, symptoms of encephalitis had come on, and had led to a fatal result. An abscess was found in the lower part of the frontal bone, on the side corresponding to the injury, and in the immediate vicinity of this depressed bone.

DR. SANDS remarked that he did not wish to be understood as being opposed to trephining in every case of simple depressed fracture. He merely wished to say that as such fractures are usually the result of a force applied over a considerable area, the lesions were liable to be extensive, and of such a character as to render trephining a useless operation; consequently, he would hesitate before converting a simple into a compound fracture. But if he believed that the fracture was limited in extent, and that mischief might be directly caused by a fragment of bone pressing upon the dura, he would not hesitate to trephine. He thought, however, that such cases were extremely rare.

The PRESIDENT said that his own experience accorded nearly with that of Dr. Sands. He had thought it was, as a rule, disastrous to add to an already existing fracture the complication of an external opening. In one or two instances where he had felt that the depression was abrupt and very marked, and that the symptoms were due to the depression, he had made an incision and proceeded to elevate the bone, but the cases of abrupt depressed fracture without breaking of the skin are very rare. In only one or two instances had he ventured to trephine, and he was not able to give the results. He believed that the true principle was that which Dr. Sands had announced.

DR. STIMSON referred to a case which illustrated the application of the principle advocated by Dr. Sands and Dr. Markoe. It was one of simple depressed fracture produced by a blow with a hammer. He had already reported the case to the Society. The patient was trephined and made a good recovery. There were no brain-symptoms.

The PRESIDENT remarked that in such a case the indications for trephining seemed to be very clear. Besides, if there were symptoms which seemed to depend especially upon the local injury, trephining should be performed.

DR. SANDS remarked that in simple fracture accompanied with deep depressions, recovery sometimes took

place without trephining. He had seen an example of this kind many years ago in the Massachusetts General Hospital.

FOREIGN BODY IN THE ŒSOPHAGUS.

DR. J. L. LITTLE presented a specimen, with the following history: The patient was admitted into St. Vincent Hospital February 28. On the night before, she accidentally broke a plate containing two false incisor teeth. She placed the broken plate in her mouth before going to bed. On awakening in the morning, the pieces became loose, and one of them slipped down into the œsophagus. On entering the hospital, the patient complained of the following symptoms: Pain between the shoulders, and just below the clavicle, on the right side; was unable to swallow liquids, the attempt giving rise to severe pain; had had slight hemorrhage from the throat. Upon examination, she complained of great pain upon pressure over the œsophagus, just above the clavicle, but no indication of a foreign body could be felt. A digital examination, and the introduction of Cusco's laryngeal forceps failed to detect any obstruction. I then introduced a probang, with a rounded, steel hook at its extremity. This was passed down about six or seven inches below the tongue, and came in contact with the foreign body. I succeeded in hooking it, and in making strong traction; but, failing to dislodge it, I unhooked it, and, after several unsuccessful attempts, I finally succeeded in dislodging it. The patient then stated that the body had slipped down further into the œsophagus. I instantly reintroduced the hook, and was fortunate to catch the body again, and to draw it up until it was in sight. The hook then slipped off, and the plate slipped down again. I then quickly introduced a pair of œsophageal forceps, and succeeded in seizing and removing it. The plate removed contained one tooth, and was of a triangular shape, measuring one and seven-eighths inch in one direction, and one and one-quarter inch in another. A slight amount of hemorrhage followed the removal. The patient was able to swallow, with some pain, immediately after, but left the hospital the next day.

DR. W. T. BULL referred to two cases in which he had removed similar foreign bodies from the œsophagus with the ordinary "coin-catcher." The first was that of a patient who, nine days before admission to the hospital, swallowed an upper plate containing two front teeth, and took nothing afterward except fluid nourishment, and that with much difficulty. He said he had lost twenty-five pounds in weight. The foreign body lodged in the œsophagus just above the entrance to the stomach. It could be pulled up to about the level of the cricoid cartilage without difficulty, and then it would disengage from the instrument and be pushed back. Dr. Bull then resorted to the following manœuvre: He introduced two coin-catchers, one beyond the plate, the other just below the cricoid cartilage, to "lie in wait." With the first, the body was drawn up till it was arrested, when the second caught it at once, and it was removed.

In the second case, the rubber plate, a smaller one, was easily caught with the coin-catcher just within the entrance to the œsophagus, and removed at the first effort.

SECONDARY HEMORRHAGE AFTER LIGATURE OF THE FEMORAL ARTERY.

DR. POST continued the history of the case which he reported four weeks previously; one in which secondary hemorrhage occurred after removal of a sarcoma of the thigh, and in which he ligated the femoral artery; subsequently, hemorrhage occurred which he thought was evidently from the distal side. Believing it to be unwise to open the wound and to ligate the vessel, he applied a compress with bandage, from the toes upwards, suspended the limb, and this method was effectual in restraining further hemorrhage. The hemorrhage had not recurred and the patient was doing well.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

Annual Session, held at Birmingham, April 10, 11, 12, and 13, 1883.

(Specially reported for THE MEDICAL NEWS.)

APRIL 10.—FIRST DAY.

THE Association met in annual session. The President, DR. C. D. PARKE, of Selma, in the Chair.

After the usual addresses of welcome by DR. RASSEN, President of the Birmingham Medical Society, and MR. MCLANE, Mayor of the city, and the reception of the message of the President, the Association adjourned until 8 P.M., when

THE ANNUAL ORATION

was delivered by DR. E. H. SHOLL, of Gainesville. His subject was the *Work of the Profession*, and he was attentively listened to by a large audience.

APRIL 11.—SECOND DAY.

DR. JEROME COCHRAN, of Mobile, read a paper on the *Therapeutic Uses of Quinine in Alabama*. This paper was lengthy and exhaustive, and of such a nature as not to admit of an epitome without going beyond the limits of this notice.

DR. W. H. JOHNSTON, of Selma, read an instructive paper on *Recent Improvements in Gynecology*.

DR. B. H. RIGGS, of Selma, presented an essay on *Eclampsia Gravidorum*, in which he argued that these eclamptic seizures are due to a reflex action of the nervous system.

DR. F. TIPTON, of Selma, read a paper on *Some Points in Regard to the Eyesight of Children*, and also on the *Diagnosis and Treatment of Nasal Catarrh*.

DR. CHARLES P. SANDERS, of Pleasant Ridge, presented a paper containing *Some Observations on the Principles and Practice of Medicine within the last Fifty Years*.

DR. W. W. GOLSON, of Autauga, read a paper on *Rötheln*.

DR. JEROME COCHRAN read an elaborate essay on *Alcohol, its Physiological Action upon the System, and as a Cause of Disease*.

This was followed by a lengthy and spirited discussion, which was continued through the night session to a late hour.

THE CODE OF ETHICS.

DR. R. D. WEBB, of Livingston, presented the following resolutions, which were referred to the Board of Censors, with instructions to report at the morning session of to-morrow.

Whereas, The Medical Association of Alabama views with the deepest concern and regret the action of the Medical Society of the State of New York, at Albany, in February last, in adhering to its former action in regard to the Code of Ethics; and, although this Association, at its meeting held in Mobile, in April, 1882, passed resolutions condemning the former action, yet feeling that this is a blow at the fundamental principle of all medical ethics, we deem it proper, upon the reaffirmation of this dangerous doctrine by the Medical Society of New York, that this Association again declare its views; therefore,

Resolved, That, as an Association looking to the advancement of medical science, we can but regard this action as unnecessary and unwise, and calculated to create schism in that noble body of men who have for so many centuries worked harmoniously together upon the basis of *unity of principle and community of thought.*

Resolved, That as an Association, acting through our delegates to the American Medical Association, at Cleveland, we will use every fraternal means to induce these erring brothers to return to their allegiance, to what we regard as the basis of medical ethics; and in the event of failure in this, we will use all honorable means to exclude them from a participation in the benefits and privileges arising from the medical compact, based upon this *oneness* in principle and thought, and springing, as it does, from a recognition of true scientific principles in medicine as opposed to special dogmas.

Resolved, That as the ethical relations of the profession, and the views, especially of the younger members, are greatly influenced by the tone of the medical press, we can but condemn the course of those journals which have espoused this "new code" idea, and we discourage subscriptions to such journals in this Association upon this ground, however worthy in other respects.

Resolved, That as the views and opinions of professors of colleges, whether on medicine proper, or medical ethics, are generally received as *ex cathedra* by students, and by them carried into the ranks of the profession, we can but view with distrust those medical colleges where this view of ethics is openly inculcated, and hence cannot consistently recommend such colleges to the medical students of this State.

April 12.—Third Day.

The resolutions introduced by Dr. Webb on yesterday, were reported back by the Board of Censors, with the recommendation that they pass.

They were then passed by the Association without a dissenting voice.

Dr. M. H. Jordan, who had been appointed as leader in the "*omnibus discussion*," then introduced the following subjects, accompanying each one, as introduced, by short and pertinent remarks, calculated to draw out discussion:

1. "Is the artificial production of abortion ever justifiable for the uncontrollable nausea and vomiting of pregnancy?"

2. "In abortion, should the secundines be removed by art, or left to the resources of nature?"

3. "The injudicious use of quinine. Is it hurtful in fevers attended by threatened local inflammations? Are its effects upon the hearing permanent?"

4. "The use of galvanic electricity in uterine therapeutics?"

Each of these subjects drew out spirited discussions, which occupied the greater part of the day. Want of space will not permit even an outline.

April 13.—Fourth Day.

The Board of Censors presented a lengthy and important report, which, with the review of the roll of the Societies and Councillors, and the election of officers, consumed the day.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. M. H. Jordan, of Birmingham.

Vice-Presidents.—Drs. Frank Tipton, of Selma, and S. M. Hogan, of Union Springs.

Secretary.—Dr. T. A. Mears.

Treasurer.—Dr. W. C. Jackson.

CORRESPONDENCE.

MURIATE OF QUININE.

To the Editor of The Medical News.

Sir: I have read with great interest Dr. Mixsell's article on the muriate of quinine (Quiniæ hydrochloras, U. S. P. 1880), in The Medical News of March 31, 1883. For the past two years I have been very much interested in the use of this valuable preparation, and have watched its effects very carefully in Germany, where it is a great favorite, not only in private, but in hospital practice. It is rapidly absorbed, and on this account can be given successfully in much smaller doses than the sulphate. I have found it a very valuable remedy in neuralgia, and I might say, "it works like a charm" in this painful affection. It is, in my opinion, very much to be preferred to quiniæ sulphas, in all cases. The great drawback, at present, to its general use is its great expense. I have lately imported some of the quiniæ hydrochloras through the house of Leopold Babo, of Boston, Mass., from Mark, of Darmstadt. The price is five dollars per ounce. This seems to be a very perfect preparation. It is to be hoped that an equally good one will be procurable in this country at a much lower price. I always prescribe it either in capsules or else in powders to be dissolved in a little water. Its convenience in this respect adds to its value. I should not care to have it made into pills. It has won its popularity by its rapid and faithful action, and to prescribe it in the pill form would, I fear, injure its reputation. I have repeatedly recommended it to brother practitioners, but so strong is the prejudice against all new preparations of quinine that I found very few willing to give it even a trial. The article of Dr. Mixsell's will, I trust, bring this very important remedy into more general use in this country.

Very respectfully yours,

W. Thornton Parker,
Act. Asst. Surgeon, U. S. Army.

Ft. Elliot, Texas, April 14, 1883.

NEWS ITEMS.

NEW YORK.

(*From our Special Correspondent.*)

Action of the New York Academy of Medicine on the National Code of Medical Ethics.—At the stated meeting of the New York Academy of Medicine, held on Thursday, the 19th inst., resolutions referring to the Code of Ethics were presented, which excited a very animated discussion, and were finally passed by a two-thirds vote.

The question of medical ethics has produced a division of the profession in New York City, where the contest is most animated, which is extending throughout the State. Those who sustain the "National Code" have taken the position that all of its provisions must be maintained until it is modified by the American Medical Association; while those who advocate the Code recently adopted by the New York State Medical Society, which permits regular practitioners to consult with any legally qualified practitioners, be they homœopathists, eclectics, botanics, or what not, contend that they are acting within the statutes of the State, the authority of which is superior to that of any medical organization, and especially that of the American Medical Association. It is contended by the adherents of the State Code that the County Societies must of necessity modify their by-laws, so that they shall be in accord with the Code of the State Society.

As regards the Academy of Medicine, this Society has an independent charter, and has long since adopted, as one of its by-laws, the Code of Ethics of the American Medical Association. It is the only Society in the State entitled to representation in the American Medical Association, and its delegates have already been appointed.

At the meeting of the County Medical Society, held just before the last meeting of the State Society, the President of the Academy, Dr. Fordyce Barker, to the great astonishment of many of the members of the Academy, made a long and earnest speech in favor of the "New Code." This excited a feeling of alarm among members of the Academy who are in favor of the National Code, especially as it became evident that the first Vice-President and many other officers of the Academy were also in favor of the "New Code." There was therefore, perhaps, on the part of conservative members of the Academy, some ground for the anticipation entertained by them of an attempt to commit the Academy to a support of the State Code; although the by-laws of the Academy can be modified only at a regular stated meeting, after notice given at a previous stated meeting, and then only by a vote of three-fourths of the Fellows present.

At the meeting held April 19th, there was an unusually large attendance, many who were not Fellows of the Academy being present. The registered attendance of Fellows was between ninety and one hundred. After the completion of the ordinary routine business, a short paper was read by Dr. Griswold, which was followed by the paper of the evening, by Dr. Wylie, which latter was discussed by Drs. Emmet, Lusk, and Chamberlain. Following this, under the head of new business, a set of preambles and resolutions was introduced by Dr. Austin Flint, Jr., with the following prefatory remarks:

"It is time that, in this Hall, presented by a distinguished Fellow and benefactor of the Academy, and in the presence of these portraits of former Presidents and distinguished Fellows, most of whom have passed away, resolutions should be introduced deprecating the admission of new Fellows who cannot conscientiously sign, as we have all signed, and cordially support, as we should all support, the Code of Ethics of the regular profession, which is the Code adopted by the by-laws of the Academy; I therefore move the adoption of the following:

"*Whereas*, The New York Academy of Medicine has adopted in its by-laws, as its standard of Medical Ethics, the Code of Ethics of the American Medical Association; and

"*Whereas*, Each newly elected Fellow of the Academy is required to sign its constitution and by-laws; be it

"*Resolved*, That the Committee on Admissions be, and is hereby, instructed to report to the Academy for election as resident Fellow, no physician who is known to the Committee to be in opposition to the Code of Ethics of the Academy, and who, as a consequence, cannot consistently sign the by-laws of the Academy.

"*Resolved*, That these instructions to the Committee on Admissions be continued in force until the American Medical Association shall have modified or repealed its Code of Ethics, and such modification or repeal shall have been adopted by the Academy, or until the Academy shall have modified or repealed its by-laws referring to Medical Ethics."

It was instantly moved and seconded to lay the preambles and resolutions on the table. The yeas and nays being called for, the motion to lay on the table was lost by the following count: yeas, 30; nays, 60.

The preambles and resolutions were then discussed by Drs. D. B. St. J. Roosa, A. Flint, Jr., S. S. Purple, R. F. Weir, A. H. Smith, I. B. Read, E. C. Harwood, E. L. Partridge, and C. R. Agnew. The point was raised by Dr. Agnew that the resolutions practically introduced a new requirement for resident fellowship, and were really amendments to the by-laws, requiring, as such, previous notice and a three-fourths vote. It was ruled by the President that the resolutions were not amendments to the by-laws.

Dr. Agnew stated, also, that no notice of the resolutions had been given to Fellows of the Academy, except to those supposed to be in favor of their adoption; that he became aware of the object of the meeting not before half-past seven in the evening; that the New Code party was taken by surprise, and had been entrapped, and that it was evident that the meeting had been packed. He characterized the proceedings as contrary to the laws of the State with regard to properly qualified practitioners of medicine, and as a trick worthy of the lowest form of political manœuvring.

Dr. Roosa followed in very much the same strain, and emphasized the remarks of Dr. Agnew, denouncing the measures proposed in the strongest terms. He was followed by Dr. Weir, who also opposed the resolutions as the work of a secret organization.

Dr. Flint, Jr., who spoke a second time, by permission of the Academy, defended the resolutions. He said that they simply affirmed the existing by-laws of the Academy. That, with regard to the election of new Fellows, it was evident, from circumstances which had already occurred, that instructions to the Committee on Admission were necessary. He deprecated the necessity of voting against candidates for the reason that they were opposed to the Code of Ethics of the Academy, when such candidates might simply be ignorant of the provisions of the by-laws. He stated that the Academy was the only chartered society in the State now entitled to representation in the American Medical Association, and in the medical societies of other States; that the movement to sustain the National Code should have originated in and extended from the Academy, but the conditions, with which many Fellows were familiar, had rendered this impracticable. These conditions were a powerful argument in favor of the resolutions. The profession is divided, and it is absolutely necessary that the Academy should take a position on one side or the other. He stated that the organization to sustain the National Code was not secret, but that its objects had been published in the medical journals, although not in the newspapers. In answer to the charge of "packing" the meeting, he stated that any Fellow or Fellows had a right to introduce resolutions in support of the by-laws of the Academy, and to ask those in favor of sustaining the by-laws to come to the Academy and to vote for the resolutions. He said, in conclusion, that, in his opinion, the action of the Fellows of the Academy who advocated the resolutions would compare favorably with the methods of those who adopted the so-called New Code at the State Society and at the County Society.

After the yeas and nays had been called, the preambles and resolutions were adopted by the following vote: yeas, 58; nays, 29.

It was then moved by Dr. Gouley to reconsider the vote on the preambles and resolutions, and then to postpone indefinitely the motion for reconsideration. The motion to indefinitely postpone was carried, thus preventing a reconsideration of the vote at a subsequent meeting.

Dr. Flint, Jr., then introduced the following resolution:

"*Resolved*, That the Academy hereby disavows any sympathy with the action of the State Medical Society, which has put the profession of the State, through its

State and county societies, in an attitude of opposition to to the medical profession of the rest of the United States."

This resolution was discussed in much the same tone and spirit as the first resolutions, and was carried by nearly the same vote. A motion was also made by Dr. Gouley to reconsider, and then a motion was made to indefinitely postpone the reconsideration, which last motion was carried.

The President then asked, in the interests of harmony, that some Fellow make a motion to suspend the by-laws, and to postpone all stated meetings of the Academy until the time for the first stated meeting in October. Such a motion was made and lost; whereupon the President tendered his resignation, which he afterwards withdrew.

Dr. Weir tendered his resignation as first Vice-President and Fellow of the Academy.

Drs. Agnew, Roosa, and Cushman also tendered their resignations.

At this stage of the proceedings, undue excitement was occasioned by an inquiry by Dr. Purple as to whether the Fellows who had tendered their resignations had paid their dues to the Academy, on the ground that resignations were not valid unless the Fellows resigning had paid their dues. This inquiry gave rise to hisses and other marks of disapprobation. In reply to these demonstrations, Dr. Purple said that some Fellows of the Academy seemed to regard its by-laws as a dead letter, but he wished it to be understood that some who had grown gray in the Academy, proposed that the by-laws be strictly and impartially enforced.

A motion to suspend the by-laws, and to postpone the meetings of the Academy until October, was then made and carried by the required three-fourths vote.

A motion was made to accept the resignations, but a motion to adjourn was carried amid some confusion, and the meeting adjourned at a late hour. The resignation of the President was withdrawn, and the other resignations were not acted upon, and are still in the possession of the Academy.

The excitement produced by the proceedings of the Academy is most intense. The supporters of the National Code claim that the bitter feeling manifested by their opponents is an evidence that they had hoped to "capture" the Academy. Otherwise, they say, why should not the advocates of the "New Code" rest content with their so-called victories in the State and County Societies, and allow the Fellows of the Academy of Medicine to quietly reaffirm their by-laws, which they consider essential to regularity and to recognition by the regular profession in New York and elsewhere. They ridicule the statement that a majority of the Academy is not in favor of the by-laws as they exist.

A point strongly urged by the supporters of the National Code is that they have confined their publications to the medical journals, and have had no communication with representatives of the secular press; while their adversaries have reporters at their meetings, and flood the newspapers with "interviews," which, in itself, is a violation of Medical Ethics. Whatever else may be said of the movement at the Academy, no one has charged that the proceedings were not conducted with dignity and decorum, and an entire absence of personalities even under strong provocation. The successful party at the Academy assumes to take the position that their associates are defending their rights in the profession in a strictly professional way with courage, firmness, and moderation.

NEW ORLEANS.

(*From our Special Correspondent.*)

Bovine Virus.—Physicians here are becoming more and more opposed to bovine virus. The use of it had become quite general, because of popular clamor for it. The unsatisfactory results may, in a measure, be due to the fact that the supply is brought from the North, and thus becomes old before it is used. We have seen many cases where the only results following its introduction were papular raspberry marks, which remain for an indefinite time, gradually fading away without pustulation. In each of two of these cases under our charge, fresh humanized virus produced a typical vesicle which ran through its regular course.

Smallpox Inoculation.—A physician here has been practising the inoculation of smallpox virus attenuated with milk. He does not state whether or not he thereby causes smallpox or varioloid. Any question respecting the results of this method of practice has long since been definitely settled. No *tertium quid* can be formed by any admixture of smallpox virus outside the human system. The practice pursued by the gentleman referred to is reported to have been followed in several instances by smallpox. In reference to the above, the Louisiana State Medical Society in convention at Shreveport adopted the following resolutions, and referred them to its standing Committee on Legislation and State Medicine for action:

Resolved, That this Society emphatically affirms its strong confidence in the efficiency of vaccinations and revaccinations as the surest and only practicable means of preventing the spread of smallpox.

Whereas, This Society is informed that it is the practice of one or more practitioners of medicine within the limits of this State to inoculate human subjects with lymph or pus taken from smallpox patients, previously mixing it with milk or cream; therefore, be it

Resolved, That the practice of inoculating smallpox by mixing any product whatever from the body of a smallpox patient with milk, cream, butter, or any fluid obtained from the cow, is productive of no modification beyond that of direct inoculation from one person to another. It does not deprive the person thus inoculated of that power to communicate the disease through the atmosphere which natural smallpox possesses, and is, therefore, dangerous to public health.

There are no State laws or city ordinances with reference to this matter.

Drainage.—The greatest rainfall that has been known here for years occurred on Saturday, April 7th. From 6.30 A.M. to 2 P.M., 6 inches of water fell, and by 10 P.M. it had amounted to 8.06 inches. From Saturday morning to Wednesday the total fall was over 10 inches. The streets were all flooded, and in the back parts of the city the water entered the houses. The fall from the Mississippi River to the Lake, a distance averaging 5 or 6 miles, is not over 15 feet from the top of the levees; the drainage of this city is thus a very serious problem. There is one advantage of this state of affairs, we can have no such thing as sewer gas, for we can have no underground sewers. The gutters are all open to the purifying action of the air, and so long as they are properly flushed with pure river water, and prevented from becoming stagnant, they do not appear to be sources of morbid contamination. Certainly they are not more likely to prove factors of disease than the underground sewerage system practised elsewhere. The New Orleans Auxiliary and Sanitary Association has done much good in this manner. It is to be hoped this plan will be continued this summer, although opposed by the State Board of Health, which, indeed, we have reason to believe, is seeking to obtain the legal abolishment of this useful association.

Leprosy.—There are four cases of leprosy in the Charity Hospital. Your correspondent has seen histories of all of them, but no tracing of the disease is

possible in any one of them. One is being treated with Chaulmoogra oil, and seems to be improving. They are to be published.

AN ADDRESS IN FAVOR OF THE NEW CODE.—The advocates of the New Code held another meeting in New York City last Friday evening. In the absence of the Chairman, Dr. A. C. Post, who was detained at home by sickness, Dr. S. O. Vanderpoel, of Albany, was called to the chair. After considerable discussion, the following address was adopted:

The Association for Preventing the Re-enactment in the State of New York of the Present Code of Ethics of the American Medical Association to the Medical Profession of the State of New York:

When very many members of a learned and liberal profession come to the conclusion that the rules by which their relations to their colleagues and to the public have hitherto been regulated have been injurious to themselves and to the community, it is evidently the duty of persons having these convictions to labor for the abolition of such rules, and to state clearly the reasons why they should no longer be enforced.

The Code of Ethics of the American Medical Association which is now in force is identical with that which was in authority in the Medical Society of the State of New York, and which was abolished at the annual meeting of that Society in February, 1882. It appears from the proceedings which led to the abolition of the Code in the State of New York that there had been a gradually increasing conviction among its members that some of the provisions of the Code were arbitrary and illiberal, and that a larger liberty should be granted the members of the Society in the performance of their professional duties. After a full discussion of the subject, a vote of the Society was taken, and by a constitutional two-thirds majority the Old Code was abolished, and a new one was enacted in its place. Among those who voted for the substitution of the New Code for the old one were many who preferred the entire abolition of the special ethical code as unnecessary for the guidance of an honorable and learned profession. But the members who took this view of the subject were willing to unite with those who were less radical than themselves, in order to secure the abandonment of the most obnoxious features of the Old Code.

At the annual meeting of the Society in February, 1883, a strong effort was made by the advocates of the Old Code to undo the work of the previous year, and to re-establish in this State the Code of the American Medical Association. For this purpose, no exertions were spared to secure the election of delegates who were in favor of the proposed retrograde movement. But the efforts which were then made failed to secure the votes of even a majority of the members of the Society.

It is well known also that a strong effort is now being made, even by coercive measures, to secure in advance such a representation at the meeting of the Society in 1884 as will undo the work which was done in 1882 and 1883. Believing that such action would be injurious to the honor, dignity, and usefulness of the profession, and to the best interests of the community, we earnestly entreat the members of the profession to give the subject their serious consideration, and to use all honorable and legitimate means to prevent the re-enactment of the present Code of the American Medical Association by the Medical Society of the State of New York. It appears to us to be particularly important to preserve to each member of the profession perfect liberty to decide for himself with whom he shall consult in order to secure the best interests of the sick.

The arbitrary rules which have to so large an extent controlled the actions of medical men, and which were originally designed to defeat the efforts of irregular practitioners to gain influence with the community, have signally failed to accomplish the object in view. These rules also have not commanded the respect of intelligent men in other professions. They have been regarded as belonging to the same category as the rules by which the various trades-unions have infringed upon the individual liberty of their members, subjecting those who resisted the arbitrary action of the majority to the greatest indignities, pecuniary losses, and even personal sufferings. We call upon all fair-minded medical men to unite with us in freeing the profession from this stigma, and in giving all its members perfect liberty to practise their art in accordance with the dictates of their own consciences, and with the enlightened opinion of intelligent men who are engaged in other pursuits.

There are indications that the movement which has begun in this State is destined to extend throughout the Union, and to end in establishing a larger liberty than we have hitherto enjoyed, and in increasing the usefulness of our profession, and in giving it a more honorable position in the State and in the nation.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.—The Fifth Annual Congress of the American Laryngological Association will be held in the City of New York, commencing on Monday, May 21, 1883, at 10 A.M., and continuing during the following two days, May 22 and 23. Sessions will be held each morning and afternoon. The following Fellows have signified their intention of presenting papers: Drs. Allen, Asch, Bosworth, Solis-Cohen, Delavan, Donaldson, Elsberg, French, Hooper, Ingals, H. A. Johnson, Knight, Langmaid, Lefferts, Lincoln, Major, Morgan, Porter, Robinson, Smith, and Wagner.

The volume of *Transactions* for 1882 will be ready for distribution within a few days.

THE WISCONSIN STATE MEDICAL SOCIETY will hold its annual meeting on May 3d.

DR. JOHN S. BILLINGS, U.S.A., was elected a member of the National Academy of Sciences, at its meeting in Washington, last week.

JEFFERSON MEDICAL COLLEGE.—DR. ROBERTS BARTHOLOW, Professor of Therapeutics and Materia Medica, has been elected Dean of the Faculty, in the place of Dr. Ellerslie Wallace, who has resigned on account of ill health.

THE MEDICAL COLLEGE OF VIRGINIA.—The Supreme Court of Appeals of Virginia last week rendered a decision in the case of the Medical College of Virginia, upholding the old Board of Visitors, and denying the power of the Governor to create vacancies in the Board.

THE FORT WAYNE COLLEGE OF MEDICINE held its fourth annual commencement on March 1. Ten candidates received the degree of Doctor in Medicine. The faculty valedictory address was delivered by Prof. W. H. Gobrecht.

HARVARD AND THE TEWKSBURY INQUIRY.—A press dispatch states that the testimony in the Tewksbury investigation reflecting on the Harvard Medical Society will receive due attention before the investigation closes, and some interesting scenes are promised at the State House. Mr. Brown has summoned as

witnesses to testify before the Committee, President Eliot, of Harvard, Dr. Oliver Wendell Holmes, Dr. Henry J. Bigelow, Dr. David W. Cheever, Dr. H. H. A. Beach, Dr. William L. Richardson, and Dr. Charles B. Porter. All these physicians have been Demonstrators of Anatomy at the medical school, and their testimony, as well as the cross-questioning to which they will doubtless be subjected by the counsel for the prosecution, Governor Butler, will probably mark the climax of interest in the investigation.

New Medical College in Mexico.—The Mexican Government opened, in January, a free medical college in Guanajuata, the capital of the State of that name. The course will comprise six years.

A Large Verdict for Damages.—In the second trial of the suit of John Lilly against the New York Central and Hudson River Railroad, for $35,000 damages, for the loss of both legs, by accident, while employed by the defendant in the yard of the Grand Central Depot, the jury returned a verdict for that amount, which is equal to the largest sum ever recovered in a similar suit in the Brooklyn Courts.

New Medical Journal.—The Medical Society of Amiens has begun the issue of *La Gazette Médicale de Picardie*, which will be its official organ.

The Petition of the Sanitary Council of the Mississippi Valley to the President of the United States.—The Committee appointed in accordance with the resolution of the Sanitary Council of the Mississippi Valley to petition the President of the United States on behalf of the National Board of Health, and consisting of Drs. Debrell, Haskell, Dickenson, Kedzie, Speigelhalter, Jones, Speed, Carr, and Dancy, and Messrs. Fenner, Daniels, and Hadden, has drawn up and forwarded the following:

"We, the Committee appointed, sincerely petition that the fund of $100,000, in the event of the outbreak of yellow fever or other epidemic disease on the coast of our country, be placed at the disposal of the National Board of Health. That body can give confidence to the people of the Valley as to the necessary precautions and safeguards yearly demanded by the exposure of the Southern ports to the ravages of yellow fever. Their inspection stations, and the methods their officers have adopted in matters of isolation and disinfection, and in establishing quarantine only when the emergency of the occasion demands it, have earned for the National Board a degree of confidence that of itself alone is worth millions of dollars to the commerce of the country. To supplant this body, or withhold from it necessary funds to maintain inspection stations at all exposed points, will, in our humble judgment, cause the wheels of commerce to clog, bring about a feeling of distrust, and on first alarm, be it true or false, cause recourse to shot-gun policy quarantine, which can but prove destructive to the commercial interests of the Mississippi Valley, which, in a measure, affect the entire Union. With these views submitted, with full faith in the appreciation and solicitude you must feel for the public health and welfare, we herewith subscribe ourselves your most humble petitioners."

Signed by the delegates from the States of Arkansas, Illinois, Indiana, Iowa, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Ohio, Tennessee, and Wisconsin.

Quarantine and Local Sanitation in Pensacola.—The following are the terms of the propositions made by Surgeon-General Hamilton of the Marine-Hospital Service, to the Board of Health of Pensacola, Florida:

"The Treasury Department will assume charge of the Quarantine Station of this port, and manage it without any expense to the city of Pensacola. It will conduct it under its own regulations as at present existing, and such additional ones as experience may demonstrate the necessity of, and in harmony with such suggestions as may be agreed upon by the Board of Health.

"As the representative of that department, I will have prepared instructions relative to the mode of fumigation and disinfection of vessels, discharge of ballast, and the inspection and general sanitary condition of all vessels entering the port. In these matters the department must use its own methods, without, however, interfering with the State and local laws, which it has no desire to conflict with.

"Aid will be extended to the Board of Health of Pensacola, in order to effect and maintain the thorough sanitation of the city. First: in the payment of bills for the removal of garbage during the months of May, June, July, August, September, and October. The garbage shall be systematically collected and removed from every house and building or enclosure under a contract made by the Board of Health, the contractors to give bonds satisfactory to the Board for the faithful performance of the work and providing for liquidated damages in case of failure. The bills for the work done under these contracts to be certified by the acting Assistant Surgeon of the Marine-Hospital Service at this station, and the president or secretary of the Board of Health. Contracts to be made for temporary drainage, and for the cleaning up of the principal streets. The drains to be opened, and gutters made under the direction of the City Engineer, and approved by the Board of Health. The contract to provide that the work shall be commenced within the earliest practicable time, and completed within thirty days from signing, otherwise the contractors to be subject to a stipulated demurrage in case of default. The work to be paid for under like restrictions, as that under other contracts.

"Two sanitary policemen are to be appointed for the season, and four temporary inspectors to be employed for the period of twenty days.

"All requisitions of the Board of Health to be forwarded through the representative of the Marine-Hospital Service at this station. Material for disinfection and fumigation will be furnished upon requisitions for the disinfection of the premises of such persons as are unable to provide or pay for themselves: none of this material to be furnished those who are able to pay for the same."

A Word for the Doctors.—Our clever contemporary *Punch* is always ready to wield its influence on behalf of science and humanity. In its issue of the 14th inst., it speaks as follows of the discussion a few days before in Parliament on the new Anti-Vivisection Bill.

"The Vivisection Abolition Bill was talked out the other day, and, as we do not wish to see the progress of medical science checked, we cannot regret that the proposal was lost. The whole question lies in a nutshell. Vivisection, as the law stands, can only be practised under very stringent regulations, and the authority of a license granted by the Home Office, which, in very rare cases, allows experiments to be made without anæsthetics. Only one per cent. of the investigations made equals the pain of an ordinary surgical operation, and what does the world owe to vivisection? The discovery of the circulation of the blood, the antiseptic surgery of the present day, the famous operation by which Mr. Spencer Wells and others have saved the lives of many hundred women;

all these, and a thousand other benefits we owe to the experiments which it is now proposed to abolish. As Mr. Cartwright said during the debate—we prefer to quote him instead of a medical man like Dr. Playfair—'Professor Lister's discoveries had revolutionized surgical science, and it was said he had reduced the mortality of man by seven or eight per cent., and yet on account of the restrictions surrounding the provisions of the present Act, he had been obliged to go abroad in order to prosecute his invaluable researches. In the Lamson case the clinching evidence which brought about a conviction, was derived from an experiment on a living animal. . . . . If this bill were passed into law, experiments would be made on human frames, and in the rudest form. In the nineteenth century the honorable and learned member asked them to prohibit investigation, to annihilate inquiry, and to say science was a thing that must be curbed.'

"No cases of cruelty under the existing Acts can be cited as occurring in this country, all the horrors of which we read, taking place in Continental cities where there are no restrictions. As Sir William Harcourt said, the question is "Whether man as the superior animal has a right to use animals for his benefit?" Of course that can only be answered in one way, but the anti-vivisectionists rush off into shameless abuse of a noble profession, and do their cause no good by it. Sir William Harcourt well summed up the debate when he said:

"They must bring a little common sense to bear on this question. They must look at it in the light of experience, and he ventured to say that true humanity was on the side of those eminent men, many of whom were among the most tender-hearted members of society. He was satisfied that, under the administration of the existing law, very little pain was inflicted, and that what pain was inflicted was under such securities and guarantees that it was not only in the course of experiment, but was abundantly justified."

"*Mr. Punch* yields to no one in his detestation of cruelty. But crimes must not remain undiscovered, our children must not die of zymotic diseases, and our wives and sisters perish for the want of the skill and the knowledge that have been obtained by humane operators from vivisection—conducted, be it remembered, in ninety-nine cases out of a hundred with the administration of anæsthetics."

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending April 14, 1883, indicate that inflammation of the brain, diarrhœa, tonsillitis, pneumonia, and whooping-cough have increased; that influenza has considerably decreased; and consumption and measles have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending April 14, and since, at nine places, scarlet fever at eighteen places, and measles at twenty-three places.

One case of measles came with immigrants arriving at Port Huron, April 12.

THE PLAGUE IN PERSIA.—Dispatches from Constantinople and Smyrna indicate that a contagious disease has been prevailing during February and March in a group of Kurdisch villages actually situated on Persian territory, but in close vicinity to the Turkish town of Suleimanié. Sixty deaths were reported to have occurred in the two months. The Kurds in the neighborhood have instinctively proceeded to form an armed cordon around the infested villages, interdicting all communication. The Sanitary Council of Constantinople instructed their representative at Van, Dr. Steptovitch, to proceed to the villages, and investigate the disease. The doctor endeavored to obey his orders, but was not permitted to enter the villages. His report indicates, however, that the disease is decidedly the plague. A quarantine guard has been placed along the frontier, and every measure taken to prevent the introduction of the pestilence into Turkish territory.

OBITUARY RECORD.—Died, at Washington, on the 24th inst., JAMES CROXALL PALMER, M. D., late Surgeon-General, United States Navy, aged 72 years. Dr. Palmer was born in Baltimore June 29, 1811, and graduated in the arts at Dickinson College, Pennsylvania, in 1829. He then begun the study of law, but subsequently relinquished this profession to enter the navy. Being too old to enter as midshipman, he studied medicine, and on March 26, 1832, he was commissioned Assistant-Surgeon, having just received his degree of M.D. from the University of Maryland. In 1838 he was ordered to the store-ship "Relief," of the exploring expedition under Lieut. Charles Wilkes, and was subsequently transferred to the sloop "Peacock," whose adventurous cruise and subsequent wreck are recorded in the history of the expedition. On September 27, 1841, Dr. Palmer was commissioned as surgeon. In 1865 he was apppointed Fleet Surgeon of the Western Gulf Blockading Squadron, commanded by Admiral Farragut, and was attached to the flagship "Hartford" at the battle of Mobile, August 5, 1864. On 3d of March he was commissioned Medical Director, and on the 10th of June, 1872, as Surgeon-General. From that office he was retired, according to law, on June 29, 1873.

—— At Columbia, S. C., on 18th of April, EDWARD BERRIAN TURNIPSEED, M.D., aged 54. He was a native of this country, and a graduate of the South Carolina Medical College, in Charleston. He subsequently studied two years in the Paris hospitals, and at the outbreak of the Crimean War joined the Russian Army as surgeon-major. He distinguished himself during the siege of Sebastopol, and was made a Knight of the Orders of St. Anne, St. George, and St. Andrew respectively by the Czar. He returned to America in 1856, remaining in New York until 1859, when he came to Columbia, where he has since pursued a general practice, giving a preference to surgery.

—— At Hartford, Conn., on 17th of April, GEORGE B. HAWLEY, M.D., aged 72 years. Dr. Hawley was for many years a prominent physician in Hartford. He died at the Hartford Hospital, of which he had been a director from the time it was founded, in 1854.

—— The death is announced of DR. D. JUAN BABÉ, one of the editors and founders of *La Gaceta Medica de Catalana.*

—— DR. MONTALIER, one of the most esteemed members of the medical faculty of Bordeaux, died on March 24, at the age of sixty-four years.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 16 TO APRIL 23, 1883.

SCHUFELDT, ROBERT W., *Captain and Assistant Surgeon.*—To report in person to the President of the Army Medical Examining Board, in session in New York City, for examination for promotion, on completion of which to return to proper station.—*Par. 10, S. O. 87, A. G. O., April* 16, 1883.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

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